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ORIGINAL ARTICLES.

A NEW STUDY OF LOBAR PNEUMONIA, WITH DEDUCTIONS FROM AN ANALYSIS OF FIFTY-FIVE FATAL CASES.[1]

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HISTORY tells us that in ancient times pneumonia was epidemic, and the Athenian plague that occurred in the year 430 B. C. was described as gangrenous pneumonia; and yet Thucydides claimed that it differed from other epidemics of pneumonia, and resembled typhoid fever; being characterized by ulceration of the bowels and excessive diarrhœa. On the other hand, the Black Death, that in the fourteenth century killed two-thirds of its victims, was associated with cough, bloody expectoration, vomiting and diarrhœa, buboes, carbuncles, and petechial spots. So, in the year 1557, during an epidemic that resembled typhus, in France, epidemic pneumonia was prevalent in Belgium. It occurred in September, after violent and cold north winds, and beginning with catarrhal affections was followed by cough and fever, pain in the side, and difficult respiration. Bloody expectoration occurred on the third day. In the year 1600 there was also a similar epidemic. Its symptoms were dyspnœa, cough and bloody expectoration, pleuritic pains, with delirium. The disease was thought by some to be contagious.

In England many epidemics have been recorded as following influenzas, and Sturges (*The Natural History and Relations of Pneumonia*, London, 1876), to whom I am indebted for the instances just cited, gives a number of similar examples of so-called epidemic pneumonia.

In the majority of these instances, however, the diagnosis of pneumonia was not verified by post-mortem examinations, which were rare in the earlier days of medicine; and even when made did not offer very satisfactory data for the modern pathologist; because the terms used were open to various interpretations. We may truly say that epidemic pneumonia does not prevail to any great extent at the present day; but at the same time a certain number of facts either *appear* to, or *do* actually indicate that it is occasionally epidemic. Thus Dr. H. J. Olklin, the inspecting medical officer of Iceland, in his report of an official visit to Iceland, in 1863, described an epidemic of pneumonia that he found prevailing there, and which he characterized as quite dissimilar from any disease he had seen previous to that time; though his experience covered a sixteen years' residence in foreign countries.

It may be true, then, as Dr. Sturges suggests, that the epidemics of pneumonia narrated by him *did* actually occur; the type varying with the locality. Thus, to give an instance, after the winter of 1708–09, in France, an epidemic of pneumonia occurred in the provinces of Languedoc and Provence, but, on reaching England, shaded off into a widespread influenza. I might mention at this point that the late Dr. James Jackson, of Boston, in "Another letter to a young physician" (Boston, 1861), speaks of an epidemic that occurred in New England between 1812 and 1814. It was called, he says, peri-pneumonia notha, typhoid pneumonia, bilious pneumonia, etc. Post-mortem examinations, he tells us, showed that the inflammation was sometimes seated in the pleuræ; sometimes in the lungs; sometimes in the heart; or in two or more of these parts at the same time. The epidemic followed one of spotted or petechial fever. Of quite another character must have been the epidemic described by Dr. Darlington in a recent number of the *Medical Record* (Dec. 8, 1888), where twenty-five cases of lobar pneumonia occurred within ten days in a total of eighty men, who slept in a single room of a large shanty, and where the foul atmosphere and unsanitary conditions of the workmen seem really to have produced an epidemic.

I. ACUTE LOBAR PNEUMONIA.

My paper this evening is devoted entirely to the subject of lobar pneumonia, in its primary and secondary forms, for I shall adhere to the division of lobar pneumonia into two varieties, as maintained by the old French school that flourished in the first half of the present century; though what was then called primitive or primary pneumonia, I shall call acute lobar pneumonia; and what was called consecutive pneumonia shall be called secondary pneumonia.

It is desirable, however, that I should at this point enumerate the principal types of pneumonia, according to my classification, that there may be no obscurity in my meaning as I proceed.

The types are as follows: 1, acute lobar pneu-

[1] Read before the New York Academy of Medicine, December 20, 1888.

A TABLE SHOWING THE CHIEF CLINICAL PHENOMENA IN 100 FATAL CASES OF THE SEVERAL TYPES OF PNEUMONIA.

	Frequency	Sex.	Occupation.	Part of year.	Lung affected.	Extent.	Antecedent diseases.	Cause.	Duration.	Cause of death.	Physical signs.	Expectoration.	Respiration and pulse.	Pain.	Uræmic sympts.	Nerv. sympts	Abscess.	Gangrene.	Height of temp.
1. Acute lobar pneumonia.	35 Mostly in middle life.	Males largely in excess.	No inf'nce as far as out- or in-door life is concerned.	Oct. to June, 75 per ct.	Right lung usually.	Usually in lower lobe.	.....	Exp'sure to cold subsequently.	1 day to 13 mos., 6 to 9 days.	Mostly heart failure.	In about 50 per cent. dulness and bronchial breathing.	Usually red, brown, black, or green.	Very high pulse rate; resp. rate disproportion'ly high.	Present in about 58 p. ct.	Present in about 50 p. ct.	In all.	0	2 per ct.	Higest 108°, average 104.3°.
2. Secondary lobar pneumonia.	19 Mostly after middle life.	"	"	Oct. to June, 100 per ct.	Right lung usually.	"	A large variety of diseases.	.....	1 day to 21 days.	"	In about 65 per cent. dulness and bronchial breathing.	"	Pulse rate less high.	Present in about 40 p. ct.	Present in about 60 p. ct.	"	5 per ct.	5 per ct.	Higest 105°, average 103 6°.
2. Embolic lobular pneumonia.	18 At any age.	"	Out door, 33 per ct., in-door, 67 per ct.	Oct. to June, 78 per ct.	Both lungs usually.	Disseminated.	Pyæmia and endocarditis mostly.	Pyæmia, endocarditis, or pyæmia.	1 day to 26 days.	Sepsis, or exhaus'n or heart failure.	Regular signs rare.	"	Pulse rate much increased.	Present in about 5 p. ct.	Present in about 47 p. ct.	"	22 per ct.	.....	Often normal or subnorm. occasionally mod. elev.
4. Bronchial lobular pneumonia.	20 At any age.	"	Out-door, 77 per ct., in-door, 23 per ct.	Oct. to June, 75 per ct.	Both lungs usually.	"	Diphtheria, measles, fractures, nerv. dis.	See other column.	1 day to 30 days.	Heart failure mostly.	Regular signs in about 50 per cent.	"	Pulse rate as high as in sec. lobar pneumonia	Present in about 25 p. ct.	Present in about 40 p. ct.	"	10 per ct	10 per ct.	Highest 108°, average 104 7°.
5. Interstitial chronic pneumonia of heart disease.	8 In middle life mostly	All males.	.....	Dec. to July, 100 per ct.	Both lungs always.	All of both lungs.	Hypertrophy of heart with or without endocarditis.	Cardiac disease.	Mos. or years.	Heart failure or uræmia mostly.	Cough, dyspnœa, and slight dulness.	Yellowish.	No change.	Present in about 28 p. ct.	Present in about 71 p. ct.	"	.....	.....	Occas'nally as high as 103°, gen. no rise temp
Total,	100																		

monia; 2, secondary lobar pneumonia; 3, embolic lobular pneumonia; 4, bronchial lobular pneumonia; and 5, the interstitial pneumonia of heart disease. These different divisions are, in my opinion, characterized by differences that are clinical as well as pathological, and I only follow in the steps of others when I ask for each variety a separate consideration.

Acute lobar pneumonia, as a peculiar form of lung inflammation, was, I think, first clearly differentiated by Grisolle, a student of Louis and Chomel (*Traite Pratique de la Pneumonie*, Paris, 1841). His studies were based upon 373 cases that fell under his personal observation, and it is but just to state that though much has been learned of pneumonia since the days of Grisolle, no work has surpassed his, in the completeness of its clinical and anatomical details; although his statistics lose value in some directions, because some of us, at the present day, have adopted a different classification for the less common varieties of pneumonia, which, in older times, were either grouped together under the general term "pneumonia," or were placed apart by themselves.

Acute lobar pneumonia occupies a unique position in the catalogue of diseases, for both anatomically and clinically it is unlike any known disease.

And we do well not only to distinguish it from secondary lobar pneumonia; from catarrhal or broncho-pneumonia, known sometimes as lobular pneumonia or capillary bronchitis; from septic pneumonia, known often as embolic or pyæmic, and from the interstitial pneumonia of heart disease, but also from pseudo-pneumonias, such as the so-called fibrous pneumonia (the fibrous phthisis of Sir Andrew Clark and others); from the catarrhal phthisis of Niemeyer (known as catarrhal pneumonia in some quarters); from syphilitic pneumonia (syphilitic phthisis), or any form of lung syphilis; from various other forms of interstitial pneumonia, such as are caused by the inhalation of foreign substances; and, finally, from hypostatic pneumonia, a bastard form, that is nothing more nor less than chronic pulmonary congestion. I should not forbear to mention that acute lobar pneumonia has also been called *croupous* pneumonia, from the fact that fibrin, which constitutes the chief characteristic of a croupous or membranous exudation, is of very frequent occurrence in the exudation that fills the vesicles: but I prefer the term lobar, because fibrin may occur to some extent in the exudation of lobular pneumonia, and because the word croupous has been largely used, chiefly in German literature, to contradistinguish any given exudation from the so-called diphtheritic, the differences being pathological, and not in any way clinical. In fact, the inutility of the term croupous is best shown by the fact that croupous and catarrhal processes may be combined in any examples of

pneumonia, whether lobar or lobular; and may also be associated with certain chronic processes, such as phthisis or syphilis. At any rate, it is often difficult in lobar pneumonia to determine whether fibrin is really present in the exudation.

Acute lobar pneumonia is the most common variety of pneumonia. In 100 fatal cases from my hospital and private records, I have found the several varieties represented as follows: acute lobar, 36 per cent.; secondary lobar, 19 per cent.; embolic lobular, 18 per cent.; bronchial lobular, 20 per cent.; interstitial of heart disease, 7 per cent. It is most common in males, and occurs most frequently between the ages of thirty and eighty.

And yet it may occur at all ages, but by common agreement broncho-pneumonia is the pneumonia of children; lobar, of middle life or old age; acute lobar, of middle life more particularly.

Acute lobar pneumonia is a disease that chiefly affects the residents of northern or middle latitudes. It is comparatively uncommon in equatorial regions.

According to the French observer Lombard, females were attacked twice as frequently as males; but Fagge, whose studies have been more recent and, I think, far more trustworthy, has found that it was chiefly a disease of the male sex. My statistics sustain those of Fagge, and even show that the ratio between males and females may be more than four to one.

When the disease originates in one lung, the right is usually selected, and this fact has been emphasized from the days of Andral to the present time, and abundantly sustained by thousands of post-mortems. And the same rule holds good, whether the disease be acute (primary) or secondary. When both lungs are attacked, the second lung is rarely involved until the affection in the first attacked has gained some headway.

In 33 of my cases the locality was as follows: In 17 the right lung alone was attacked; in 6, the left; in 10, both were affected. The disease usually commences in a lower lobe, and it has been agreed by those who have had the requisite experience, that this is the rule.

It has long been wondered why pneumonia chiefly affects the right side, and the question has arisen whether it is due to the common practice of lying by preference on the right side; to the increased functional activity of the right lung; or to its increased volume. It is difficult to answer the question. But, other things being equal, it is plainly to be seen that the increased volume of the right lung necessarily exposes a larger area to the causative agents of the disease.

The first stage is commonly called the stage of engorgement. The whole tissue increases in volume, and is infiltrated with a serous fluid, while there is more or less transudation of blood from the distended vessels. The second stage is called the stage of red hepatization. The lung is now of a deep red color, unyielding to the touch, and is difficult to distinguish from an inflamed liver. It contains no air, or very little, and almost no fluid. The cut surface has a rather rough or granular and dull aspect, as if some finely powdered substance had been strewn over the surface; each little speck corresponds to an air vesicle or cut bronchiole, which is filled with a little firm pellet, consisting of blood-cells and epithelium intermixed very frequently with fibrin, the latter holding the various elements firmly together. The red color of the lung at this stage is derived entirely from the red coloring matter of the blood corpuscles. In the third stage, that of gray hepatization, the diseased lung has assumed a different color. The reddish tint has yielded to a dirty gray, at first tinged with brown, and then with yellow. The tissue is now softer, and, on pressure, exudes a small amount of fluid, in color the same as the lung. The walls of the bloodvessels are also studded with leucocytes. In many cases dark pigmentation of the interlobular spaces is observed, the result in part of the congestion which the lung has experienced; in part, to other causes. The lung is now so greatly increased in size that it may weigh upward of sixty ounces. Normally, both lungs weigh about forty ounces.

Acute lobar pneumonia is very apt to begin with a chill of considerable severity, but it is soon characterized, more or less regularly, with pain in the side, cough, and difficult breathing. At the same time the patient experiences general malaise, pain in the limbs, and some headache. But, sometimes, instead of a regular chill, there may only be chilly sensations, with nausea and vomiting; or wandering pains may precede the chill. Within a few hours the temperature commonly rises to 103° or 104°. In both lobar and lobular pneumonia there is a peculiar alteration in the usual ratio between the pulse and respiration. According to my experience, the chronological order of events is as follows: 1, pain, prostration, and cough; 2, a severe chill; 3, nausea; 4, rise of temperature.

One of the most important early signs, though seldom the earliest, is fine crepitation, as it has been called. This peculiar phenomenon is heard only during inspiration, but it is not a sign that is positively essential; occasionally, it lasts the entire length of the disease. As soon as the second stage begins, there is dulness on percussion, with bronchial breathing and bronchophony. There is also increased vocal fremitus.

In the fourth stage, that of resolution, we hear the returning crepitant râle, the râle redux. Normal vesicular breathing will not return until the patient is thoroughly convalescent.

Let us review more closely the individual symptoms. In Grisolle's cases the chill occurred in 145 out of 182 instances, and then during the first twelve

hours of the malady. In 110 times it occurred at the very onset of the disease. Louis noted it in 61 out of 79 cases on the first day. According to these observers, the reason that the chill was not more frequently appreciated lay in the fact that it often occurred during sleep. Of course, other reasons suggest themselves, and one in particular is, that the patients may have mistaken the chill for the exposure to cold, which, in reality, existed only in their imagination. It is an important sign, and apt to be as pronounced as the chill of intermittent, puerperal, or yellow fever. It is not so prominent as the chill of pyæmia. A chill of this sort in old people, who are not specially prone to acute diseases, instantly raises the supposition of pneumonia. As already stated, my cases indicated that pain in the side usually preceded the chill. In 20 per cent. of Grisolle's cases the same phenomenon was noted. It is, therefore, of common occurrence.

Cough is also a very regular symptom. Grisolle found it in 89 per cent. of his cases, and during the first twelve hours of the attack. I am inclined to think that the locality of the affection, whether in an upper or lower lobe, does not influence the production of cough or affect its character. In old people the cough may be absent. In children it is almost always present. Sometimes it is the first symptom, but the cough may and usually does lessen as the disease progresses, even if it go on to a fatal termination.

The expectoration of pneumonia is peculiarly tenacious and variously colored. It is not always of the characteristic prune-juice color, though that is looked for; it may be red, black, green, or colorless. The characteristic sputum of pneumonia has three qualities: color, consistency, and coalescence. This sputum may occur on the first day, or not until the third or fourth; but the characteristic sputum, so far as the color is concerned, is not always present, and it may occur occasionally where no pneumonia is present, as in nasal or pharyngeal catarrh, where there has been hemorrhage; or a true pneumonic sputum may occasionally be seen in acute laryngitis, as I had the opportunity of observing very recently. In such cases the sputum may be quite coalescent, consistent, or may even be striated with a brownish coloration. We are told that in the time of Hippocrates a diagnosis of pneumonia was based on the character of the expectoration, but there are other signs more important than this one. In a certain class of cases the sputum is red or bloody in the first stage, but the color is usually that of iron rust; as the disease approaches its natural termination by resolution, the sputum is apt to be yellowish in color. In 2 of my cases there was no expectoration at all; in 15 it was either bloody, blackish, rusty, or greenish.

In 78 per cent. of the Grisolle cases he found that the pneumonic sputum occurred within the first four days, usually on the first day, but it might be delayed until the twelfth day. Often, however, groups of instances have been observed in which the sputum was uniformly colorless throughout the disease. Furthermore, cases have been seen by clinicians everywhere in which there was no expectoration at all; in very young children it is uniformly absent. Among other symptoms to be noted is a loss of appetite, that is generally marked. A certain degree of thirst is proportionate to the fever. Diarrhœa also is frequent, and nausea and vomiting occur in a goodly number of patients, as we shall see. The urine is often scanty, but there has been a difference of opinion as to the frequency of nephritic implication. Thus, while Grisolle says that albuminuria is common, and Rayer (*Traite des Malades des Reins*, vol. i. p. 578, Paris, 1859) sustained this view in a general way, they had not the experience that we have to-day. Albuminuria in acute lobar pneumonia is quite common, though not so common as in the interstitial pneumonia of heart disease. It is usually most marked at the height of the disease. Parkes (quoted by Sturges) was not far from the truth when he said that albuminuria might be present in 45 per cent. of the cases, though he appears to infer that sometimes it may not occur at all. It is unfortunate that urinary examinations are not made with more frequency or exactness in cases of pneumonia; for if this matter received due attention, I am convinced that a nephritic implication would be found more frequently than now appears from the published accounts of writers on this topic. Often we have to depend, as in my cases, upon hospital records; and since many of the patients are brought into the wards in a moribund condition, it is manifestly impossible to secure the complete evidence on this point that is needed for statistical purposes. But judging from analogous instances, we have a right to infer that the kidneys were affected in these imperfect cases as frequently as in others in which the histories were complete. Hence my statistics actually show a less amount of nephritic trouble than existed. They show, however, a percentage of 41: in 5 per cent. of this total there was chronic kidney disease of long standing; in 8 per cent. only did it positively appear that there was no urinary implication, as shown by clinical and post-mortem evidence. And therefore, finally, there was positive evidence of acute renal disease in 28 per cent. of the cases.

Now, though I am convinced that this percentage is really too low, I am equally well convinced that acute renal inflammation is not so common in pneumonia as I once thought it was. So far as the kidney is concerned, we have more to fear from the acute exacerbation of an old nephritis, where the damaged organ is suddenly called upon to do vicarious work, for which it has little capacity.

The importance of percussion was not known until 1763, when Avenbruegger's book appeared; but it remained for Laennec (*Traite de l'Auscultation*, vol. i. p. 27) to give a succinct account of the physical signs in pneumonia; and his discovery of the crepitant râle, as indicating the first stage of pneumonia, has proved to be a landmark up to and at the present time. In fact, but little has been added to our notions of the clinical aspects of pneumonia since the days of Laennec. The additions have been made by Andral, Chomel, Grisolle, Stokes, Williams, and last, but not least of all, Wilson Fox and Fagge.

In the first stage, that of engorgement, though we might expect to find dulness, we do not. But Grisolle found in this stage a loss of elasticity in the chest walls when the chest was being percussed, especially in the supra-spinous and infra-spinous fossæ. In lobular pneumonia it is generally admitted that there are no signs derived from percussion in this stage. In children whose chests are very sonorous, full resonance may be yielded. In the lobular pneumonia of children and central pneumonia there may be bronchial breathing without dulness.

The crepitant râle, according to Laennec and his followers, was thought to be the first pathognomic sign of pneumonia. But Stokes (*Diseases of the Chest*, Philada., 1844, p. 276) held, *per contra*, that puerile respiration preceded crepitation. Grisolle, in a measure, sustained the views of Stokes. The crepitant râle was first compared by Laennec to the noise made when salt was thrown on a coal fire. It has also been compared to the blowing up of a dry bladder; to the sound produced by pinching a piece of inflated pulmonary tissue held close to the ear; to the grinding of a lock of hair between the fingers or squeezing a little ball of tissue-paper near to the ear. This sound has met with various interpretations, but almost all observers are united in the opinion that it is produced by fluid matter passing into the vesicular substance of the lung. At some seasons the fine crepitant râle is rarely heard; in old people it may be replaced by a coarse crepitant râle. But Laennec (*Diseases of the Chest*, New York, 1830, p. 212) not only held, as I have already stated, that it was characteristic of lobar pneumonia, but that it occurred in no other affections except œdema of the lungs and pulmonary apoplexy. I think, however, that it is generally admitted now, in the best quarters, that fine crepitation is also heard not only in the several types of pneumonia but also in pulmonary phthisis and syphilis, or even in bronchitis, as Andral claimed. I might multiply instances from my individual experience to sustain this view, but I refrain from doing so, because I presume the point will be conceded by those who have made special studies in this direction.

Prolonged expiration, a symptom first noted by an American physician, James Jackson, of Boston (*A Memoir of James Jackson, of Boston*, 1855), is next to be considered. It precedes tubular or bronchial breathing, which sound has been compared to the breathing or blowing of air through a wooden tube. This latter symptom may not be recognized where there is liquid effusion. When the ear applied to the chest appears to locate the sound of the patient's voice nearer than in health, we have bronchophony. Where there is a considerable area of dulness the voice sounds may be metallic in quality. It appears singular that in pneumonia, even if one lung be extensively involved, there is rarely any alteration in the symmetry of the sides.

Pain is most frequent in the nipple; next, at the base of the lung. It also may be felt at any portion of the chest wall. The pain is due to pleurisy. It is not always present. The tongue is usually furred, but it may be dry or brown. It is affected in two-thirds of the cases. The pulse is usually 100 or more —it may reach 160; in children it often varies between 130 and 140. Jaundice is not very infrequent, and delirium is a common symptom, especially in subjects addicted to alcoholism. In my 55 cases of primary and secondary pneumonia, delirium was noted in 26 per cent. Coma occurred in 3 per cent. In many cases it is uræmic; in mine in 17 per cent. Coma, possibly delirium, may also be due to carbonization of the blood.

At first the respiration will rise to 22, perhaps 36 per minute, but within two days it may reach 40, 50, or 60; 64 is the highest I have known. In my cases the pulse-respiration ratio shows that there was uniformly a high ratio between respiration and pulse. Thus while the pulse was never more than the double of the normal, the respiration was often three times the normal, and in an average of 7 cases was about twice the normal. The highest recorded pulse I have known was 160; but the highest recorded respiration was 64; the lowest pulse-rate was 100; the lowest respiration-rate was 28.

The difficulty in respiration varies with the individual. Some may have a respiration of 40 and will not complain; others may feel embarrassed by a respiration of 24.

Inflammation of the lower lobes appears to produce more oppression than of the upper. In persons with contracted chests and abdominal distention the disease is not well borne.

A decided elevation of the temperature occurs in pneumonia. It may reach 103° or 104° within the first few hours of the disease. In children it reaches a greater height than in adults. The temperature rises from 1° to 2° at night and falls in the morning. The highest temperature in my cases was found to be 108°, and at death; the lowest 100.2°. In ten the highest average temperature was 104.3°.

The crisis usually occurs between the third and the eighth day; or, more accurately, between the

fifth and the seventh days. Acute lobar pneumonia is, therefore, of comparatively short duration. Unless it has unusual complications or sequelæ, the attack should not exceed fourteen days at the utmost. Any case that is claimed to have lasted more than two weeks should be regarded with the gravest suspicion. In 30 of my cases the duration was as follows:

In 1 . .	1 day.	In 4 . .	8 days.
In 1 . .	3 days.	In 4 . .	9 "
In 4 . .	5 "	In 3 . .	10 "
In 6 . .	6 "	In 2 . .	12 "
In 2 . .	7 "	In 3 . .	13 "

Of course, these figures of mine prove little except that the fatal issue, if it comes, may occur on any day of the disease, always within two weeks; but that the danger is greatest about the end of the first week, or, in reality, on the sixth day. This fatal epoch corresponds with the date at which the crisis occurs, according to most clinicians.

The immediate cause of death is usually heart failure, the tired heart muscle becoming exhausted as a direct result of the prolonged and exhaustive work it has had to perform; or indirectly through the influence of poisoned blood upon the nerve centres. In rare cases the respiratory nerves will yield, and respiration will stop, though the heart proceed. I have known it in two instances; one of which is not included in my tables.

My records show that in 17 cases, in which the direct cause of death was noted, the figures were as follows: in 11 heart failure, in 5 uræmia, in 1 respiratory failure.

There is usually no great difficulty in making a diagnosis in acute lobar pneumonia, but I have known it to be mistaken for empyema and abscess of the liver.

According to Sturges, pneumonia is produced by cold, dry, penetrating winds, while colder winds or variable winds with wet weather produce bronchitis (page 161). Grisolle thought that lobar pneumonia was not caused solely by cold, which, however, produced it occasionally. He thought that the chilly feeling described by patients at the commencement of the attack, and which they thought produced the pneumonia, was really the chill of the early stage, a point I have already alluded to. Of 200 cases collected by him, it was found that only 49 ascribed pneumonia to catching cold. Barthez (*Leçons de clin. Méd. Sestier.*) found the proportion 38 out of 125; Chomel (*loc. cit.*), 14 out of 79; Bouillaud, 16 out of 26. Grissolle thought that where cold produced pneumonia it was not due to a sudden and short exposure to an extreme change of cold air; but to a prolonged exposure to a less degree of cold, as to a current of cool air. Laennec thought that pneumonia was due to cold, long continued, or received when the body was heated or perspiring. Epidemic pneumonia might be due to an absorption of deleterious substances. Laroche, in an elaborate work on *Pneumonia in its Relation to Autumnal Fevers*, published in 1854, disposed of the view once held that pneumonia had a causal connection with autumnal fevers, and ascribed its origin to atmospheric causes, exposure to cold, violent exercise of the voice, inhalation of irritating vapors, wounds of the chest, metastases in gout, rheumatism, and skin diseases, and to surgical operations.

I am inclined to think, however, that we agree in the main with Grisolle, Bretonneau, and Frank (*Méd. Pratique*, t. i. p. 164) that the inhalation of irritating gases or vapors does not produce lobar pneumonia, but the lobular variety.

Some later writers, like Ziemssen, have thought exposure to cold a very infrequent cause of pneumonia; he traced it in only 10 out of 186 cases; Griesinger in only 4 out of 212. I found it ascribed in 22 per cent. of my cases.

But if we note the time of the year at which pneumonia is prevalent, we at once realize that it is a disease of the late autumn, winter, and spring months. Thus, in my 36 cases, 27 fell between October 1st and June 1st; 9 only in the remaining four months.

Figures apparently show that the occupation has little bearing on the causation of acute lobar pneumonia, and singular as it may appear at first sight, the ratio of disease among those who have led an indoor life to those who were engaged in out-of-door pursuits was as 11 to 10 in my tables. But we should not misconstrue these figures, for various reasons, one of which is, that, in reality, the former class is often more exposed to sudden atmospheric changes than the latter class. And so it happens that the disease is common among firemen, cooks, blacksmiths, waiters, and laundrymen, largely because their occupation, though indoors, necessitates great physical activity in an atmosphere that is alternately hot and cold. On the other hand, others who work indoors, like clerks, telegraph operators, and barbers, are apt to be exposed to drafts, or degrees of temperature which they cannot control.

From the foregoing, it is made to appear that there may be two varieties, at least, of acute lobar pneumonia: First, a sort of epidemic form, sometimes associated with diarrhœa or dysentery, where persons have been crowded together and compelled to inhale foul air. Such forms of pneumonia may be called pythogenic; and under this head it would be proper to class such epidemics as Dr. Darlington has described. Secondly, a pneumonia due directly to cold, such as was described by the Icelandic physician, and which is universally recognized, though it is rarely seen in the epidemic form that he describes. There are, doubtless, other causes which we have yet to discover.

I should not fail to notice here that the infective

character of acute lobar pneumonia has been sustained in a measure by the researches of Griffini and Cambria, who, in 1882, described peculiar bacteria in the sputum of patients suffering from lobar pneumonia. Numerous other observers have detailed somewhat similar experiences; and in the following year Friedländer found spherical microörganisms which were described as oval and contained within a distinct capsule; but in 1884 similar bodies were found in catarrhal pneumonia, which is generally held to be a disease of dissimilar character; and in 1885 Sternberg described somewhat similar capsulated bodies in the saliva (*American Journal of the Medical Sciences*, July, 1885); but, briefly stated, it appears that no observer has as yet complied with Koch's law as to the determination of whether or not a given microcyte is the cause of the disease, viz.: by, first, its successful culture apart from the body; second, its successful inoculation on the body with the subsequent production of a pathological condition the counterpart of the disease in a given organ. Thus it would be necessary to show that a pure culture inoculated upon the blood remote from the lungs produced lobar pneumonia. Experiments, however, have almost always failed in this respect, and it has been found necessary to inoculate the lung tissue, where any foreign substance will, if injected, produce pneumonia. Even in such experiments it is *lobular*, not *lobar*, pneumonia that has commonly resulted.

Pleurisy is a complication that is to be expected, and the ancients were right when they spoke of lobar pneumonia as pleuro-pneumonia. The pleuræ are always involved when inflammation reaches the surface of the lungs. So that pleurisy is never absent, except in such rare cases as when the disease is central. But such acute observers as Stokes have questioned this now-established fact.

A comparatively frequent complication is pericarditis, which develops either by an extension of the diseased process or by a simultaneous implication. A more important complication is disease of the kidneys. In a large number of the cases, as we have seen, if not in one-half, the kidneys are involved; there is then more or less swelling of the parenchyma of the organ. The spleen is apt to be enlarged also; and there is catarrh of the intestinal tract. Pericarditis occurs in about one-third of the cases according to Sturges; in my cases, in ten per cent.

Laennec thought that abscess of the lung was a very rare termination of pneumonia. In an experience lasting twenty years, he found it only five or six times; Chomel only twice; Andral and Louis only once each. Grisolle saw one case in ten years' practice, and Grisolle found that the united testimony of Russians, Poles, Swedes, and Finns was to the same effect. An abscess is described as containing laudable pus, which is inodorous, and is found in the centre of hepatized tissue. The line should be sharply drawn between such an abscess and gangrene of the lung, or cavities in tuberculous or syphilitic subjects, or in the metastatic deposits of pyæmia, or in septic endocarditis. In my thirty-six cases of acute pneumonia it never occurred; but gangrene was noted in one instance. According to my notions, phthisis can never develop from lobar pneumonia; but the discussion of this matter is out of place here. As to the so-called cirrhosis of the lung as a sequel of pneumonia, on which authors seem to be divided in opinion, I have nothing to say, because I have no experience in the matter.

The important question of the mortality of pneumonia which so agitates and interests the medical profession to day scarcely comes within the scope of my paper; but I cannot let it pass unnoticed, if only I indicate some of the sources of previous error and make suggestions by which we may reach conclusions that have at least an approximative value. For it is profitless to give statistics of a general disease like pneumonia unless we know: (1) the variety; (2) the decade of the patient's life; (3) the general character of the attack. For lobar pneumonia has quite a different mortality rate from either variety of embolic pneumonia, the cardiac, or pyæmic. So the rate is different in childhood, in adult life, and in old age. And the fatality at some seasons appears to be greater than at others, under the same general form of treatment.

But though I have no trustworthy statistics to offer I will mention some that have come down to us, and they can be accepted for what they are worth. According to Sturges, the mortality among the most eminent of the old French school was as follows; Louis, 30.8 per cent.; Andral, 55.4 per cent.; Chomel, 32 per cent.; Bouillaud, 11 or 12 per cent.; Grisolle, 16 per cent. Bouillaud had revived the practice of bleeding which was prevalent in Europe during the last century, especially in Italy, where it was not uncommon to take from the unfortunate patient as much as ten pounds of blood during an attack. It was said that the mortality by this method of bleeding, together with the use of tartar emetic, was reduced to 10 per cent. It was claimed also that hepatization of the lung was prevented. Bouillaud was satisfied with five pounds of blood.

Just before the middle of this century, however, Skoda published some statistics that tended to prove that pneumonia was a self-limited disease. But the figures given about the year 1842, by Fleischmann, a homœopathist, showing a mortality of less than 6 per cent., made a great impression on medical minds, and whether correct or not, led Dietl, a non-homœopathic practitioner, to try the dietetic method. The result was, in the first series of cases, a mortality of

only 7.4 per cent. But the most astonishing results were soon published by Barthez: of 212 cases between the ages of two and fifteen years, only 2 died, a mortality of less than 1 per cent. Here we note, for the first time, an important fact, viz., that the fatality from lobar pneumonia in children is very small. Then Bennett, by his so-called restorative treatment, saved 4 out of 125, or 3.2 per cent. His plan was to give salines to obviate the "viscosity" of the blood; wine to sustain the system; and colchicum and nitrous ether to "favor the excretion of urates." The best results, however, appear to have been given by Zeigelé, who lost none in 40 cases. The patients, however, were young.

It is apparent, after a brief study of these, or of any similar statistics, that their variation is to some extent a natural one. And though it is ostensibly true, in my individual judgment, that the expectant plan is the most successful on the whole, still the results are by no means uniform in the hands of the same person. This is partly due to reasons already given, viz., that there is much variation in the types of pneumonia from year to year; and that the pneumonia of childhood, adult, and old age are different in their expectation of life—in fact, that each case of acute lobar pneumonia stands apart by itself.

Thus the late Bamberger, of Vienna, during an experience of three years, had a mortality of 11.2 per cent.; during another three years of 18.19 per cent.

In the year 1858 the mortality at St. Thomas's Hospital was 17 per cent.; in 1859 it was 5.7 per cent. And I have been unable to learn that the variation in results was due in any way to differences in treatment. At the present day we are more than ever likely to misconstrue statistics, unless we have the most positive information as to the variety of pneumonia which we have under consideration, because the term "pneumonia," under one or other of the forms already enumerated, enters much more frequently into post-mortem records than formerly.

But as I have already stated, acute lobar pneumonia is different from secondary lobar pneumonia, catarrhal from embolic, and each from the interstitial of heart disease. I hold them to be true types of pneumonia, but, as I intend to show on another occasion, they are totally distinct in etiology, course, and termination. One of the best foreign writers on this subject has fallen into the most obvious error of taking his statistics from all of these varieties combined.

Admitting, however, that these statistics are of value, we have evidence, as I have said, that the so-called expectant plan is the best. I believe that we have passed the period when any one will attempt to prove that we can arrest the disease. We do, indeed, sometimes meet with cases of pulmonary congestion, in association with cardiac or renal disease or malaria, that present some of the signs of lobar pneumonia, but the prompt relief by stimulants or anti-periodics teaches us the nature of the congestion.

The cause of death also demonstrates the obvious direction in which our main efforts are to be made. It is not so much in the direction of reducing the temperature as toward sustaining the heart; next, to obviating renal complications. Hence, our clinical data supplemented by our pathological *do* point out the line of treatment. I doubt whether the high temperature in pneumonia is in itself a demon that we must attack and overthrow; and I have been led to believe, by post-mortem studies, that the use of antipyretics to reduce temperatures not only weakens the heart's action, but has some unfavorable action on the kidneys. It seems to me that since the introduction of the newer antipyretics, especially where they have been employed in large doses, the renal implications have been greater than before. I believe that every case of acute lobar pneumonia should be treated by itself, and the indications should be met as they arise.

Hence, the remedial agencies that have, from time to time, met with favor have an appropriate field for their employment. I have often seen benefit from copious and repeated cuppings in sthenic cases. In less vigorous persons I have seen relief follow upon the cold-water applications. In cases of defective hepatic action, I have seen relief from mercurials in large doses. In persons with weak hearts I have seen the patient carried safely through with alcoholic stimulants. In renal complications I have seen marked relief to the pulmonary symptoms from remedies chiefly addressed to the kidneys. Reduction of the temperature is indeed a relief to the patient, but I fancy it is safer to accomplish it through the aid of the simpler remedies that cause diaphoresis, rather than by those that act *more* promptly, but whose secondary effects are, to state it mildly, of doubtful value. I think we now realize that though high temperature in acute pneumonia is a symptom that is alarming, it is rather because it is an index of violent systemic disturbance than because of the bodily heat itself; since the patient may successfully endure a much higher degree of heat than obtains in pneumonia, and yet survive.

II. SECONDARY LOBAR PNEUMONIA.

There is a positive advantage in retaining this division of lobar pneumonia, which, as I have stated, was recognized by the old French school, while it has also been approved by prominent clinicians up to the present day. In the nineteen cases from my post-mortem records, from which I have drawn my conclusions, there is seen to be a line of phenomena which plainly indicate certain differences between the primary or acute, and the secondary form.

These bear: 1, upon the age of the individual;

2, the nature of the antecedent or concurrent affection; 3, the apparent causation; 4, the character of the pulse and respiration; 5, the tendency to secondary suppurative changes in the lung; and, lastly, 6, the temperature.

In secondary pneumonia the ordinary clinical signs are either masked by the concurrent disease, or are so ill-defined, that the pulmonary attack may pass unnoticed, even when the physician is observing the case with ordinary vigilance; and so it happens that sometimes in our best hospitals, secondary lobar pneumonia may first be detected at the post-mortem examination. I feel confident that my colleagues, in pathological research, will bear me out in this statement. Indeed, the attention of the physician may not be directed to the pulmonary complication, because the patient himself has not had his own attention directed to it. Such things happen with old people; or it may be that a physical examination of the chest is impracticable, and then the physician is fully exculpated, if the other ordinary physical signs are absent.

I have observed the following antecedent conditions in secondary pneumonia, and I enumerate them as I have found them, without committing myself to an opinion as to their etiological value: nephritis in 5, alcoholism in 2, phthisis in 2, burns in 2, rheumatism in 1, fracture of the ribs in 1, hypertrophy of the heart in 1, pleurisy with effusion in 1, pericardial effusion in 1. Secondary lobar pneumonia I have found in contemporaneous connection with the following affections: Abdominal dropsy in 1, pericardial effusion in 1, gangrene of the extremities in 1, aneurism of the aorta in 1, bronchitis in 2, syphilis in 2, endocarditis in 2, hydrothorax in 1. And I enumerate these concurrent affections also just as they appear upon my records as typical cases of secondary lobar pneumonia. In particular, I would say that neither phthisical nor syphilitic processes had any apparent connection with the pneumonia. In fact, all cases in which there was any suspicion of phthisis or syphilis as possible causes of lobar pneumonia were thrown out of the computation.

But I may at this point state that, though the term secondary pneumonia has been in constant use for more than half a century, it is not profitable to use the statistics bearing on this matter, as they have been furnished to us. Without going into wearisome particulars, it should suffice us to know that it was confounded with acute lobar pneumonia by Grisolle, and with hypostatic pneumonia (venous congestion) by Louis. Secondary lobar has been held to occur chiefly between the fourth, fifth, and sixth decades of life. I have found it chiefly between forty-five and eighty.

In regard to sex, though it has been held that males and females are equally prone, my tables show that the males preponderate in the proportion of 17 to 2.

It seems to be most common in winter, and of my 19 cases not one occurred between May 1st and October 1st, though I cannot see that this rule should always obtain, because if, as would appear, the bursting of an aneurism, a surgical operation, etc., or other constitutional disturbances were exciting causes, we have no right to expect that the season of the year should have any special influence.

As I have already intimated, secondary lobar pneumonia is usually insidious; the chill is frequently absent. It probably does not occur in one-fourth of the cases, and then has little intensity. The pain in the side may also be absent. The difficulty in breathing may not be marked. The crepitant râle will, however, be heard, as a rule. The temperature will rise rapidly, as in acute pneumonia, but it will average somewhat lower, though the temperature may not indicate the severity of the attack; with a comparatively high temperature the patient may survive; with a comparatively low temperature he may succumb. The average temperature will be about a degree lower than in acute lobar pneumonia. I have found it to average at the highest 103.6°. The pulse will often rise sharply at the outset, and may reach 140; but it will average about 120 to 124, a lower rate than in acute pneumonia. Bronchial breathing and dulness may be the most decided symptoms, and they are the most common in my experience. They were noted, in fact, in about 70 per cent.

The expectoration is apt to be scanty and often affords us little help in the diagnosis. I have noted it only in about one-third of my cases, when it was either bloody, rusty, or black.

Renal symptoms are apt to be more prominent, however, than in acute pneumonia.

As indicating the difference in the type of this variety of pneumonia, there is found a more decided tendency to suppuration than in the acute form.

The duration of secondary pneumonia proper is about the same as in acute pneumonia; but the crisis is apt to come earlier, because the patient is already exhausted by the antecedent trouble. Hence, I find that out of 14 cases 8 died within forty-eight hours, and that the period of greatest danger was between the second and third day.

The immediate causes of death are attributable mainly to the same three conditions that are prominent in acute lobar pneumonia, viz.: 1st. Heart failure, and in about half the cases; 2d. Uræmia; and last and least, respiratory failure from the toxic influence of the unhealthy blood on the nerve centres.

These facts, in my estimation, sufficiently indicate the proper line of treatment.

17 EAST FORTY-FOURTH ST.

NOTES ON THE TREATMENT OF INFLAMMATION OF THE FRONTAL SINUSES.

BY RALPH W. SEISS, M.D.,
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JUDGING from a perusal of the recent literature upon this subject, the treatment of inflammation of the frontal sinuses is most imperfectly understood by the general surgeon, and notes on improved methods of technique with their results seem timely.

As tersely described by Bosworth, "the frontal sinuses are two irregular cavities which lie between the two tables of the frontal bone. They are absent in children, but become developed in adult life. They communicate with the nares by the infundibulum, a rounded canal which opens into the middle meatus." They are lined with a vascular mucous membrane covered with ciliated epithelium, which is continuous with that of the nasal cavities.

Unless due to external violence or to the presence of neoplasms or foreign materials in their lumen, inflammation of the brow sinuses is always dependent on intra-nasal disease. Leaving the former rare causative factors—which will be found described in the classical text-books on rhinology—we find that almost every stage and variety of rhinitis presents a corresponding condition in the frontal sinuses.

In all severe cases of acute coryza the infundibulum is more or less occluded by swelling, and there is hyperæmia of the lining mucous membrane of the frontal cavities, as is clearly shown by the marked brow pain and the sense of distention in the supra-orbital region. It is in aggravated cases of this disease that true inflammation of the frontal sinuses is found; a patient suffering from a severe acute coryza "takes fresh cold," and as a result the nasal inflammation is greatly increased, and the patient soon complains of great pain in the region of one or both frontal cavities, which is soon followed by external tumefaction, the face often being curiously distorted by the swelling, and the upper eyelid œdematous. Reeve, of Toronto, has published in the *Canadian Practitioner* some cuts which give an admirable idea of the deformity in this affection.

Constitutional symptoms, consisting of pyrexia and often great nervous disturbance, now appear, and the patient is often forced to confine himself to bed. Somewhat later in the course of favorable examples there is a marked muco-purulent or sanious discharge from the nasal passage of the affected side. In the worst type of cases a true abscess forms, which may penetrate the anterior wall of the sinus or, in syphilitic subjects especially or, perhaps, exclusively, the abscess may perforate into the cavity of the cranium.

The symptoms in such cases are of the gravest character: delirium, coma, and paralysis ending in death, if not relieved by operation, are usual, or the patient may make an imperfect recovery delayed by many complications. Examples of this grade of severity are, however, exceedingly rare, and may nearly always be prevented by proper treatment during the earlier stages. Permanent dilatation of the frontal sinus may result from repeated attacks of purulent inflammation, causing much facial deformity.

In all cases of chronic rhinitis, especially of the advanced and sclerotic type, there is interference with nasal drainage and partial stenosis of the infundibulum, with the resulting symptoms of persistent frontal headache, and a sense of tension in the supra-orbital regions — the excessively common "catarrhal headache;" a form of suffering which often causes patients to apply for relief. Subjects who have inherited or acquired the "catarrhal tendency"—extreme liability to "take cold" from the slightest exposure, resulting in all the symptoms of acute coryza, but lasting for a few hours only, or a day or two at most—frequently suffer greatly from brow pain, often of considerable severity and repeated at frequent intervals, from acute hyperæmia of the frontal sinuses which they not infrequently regard as the most serious symptom of their disease.

Lastly, in some cases of chronic nasal inflammation, especially of the true atrophic type, there is an actual chronic purulent inflammation of the frontal sinuses, pus being discharged through the nasal cavities—this condition is, however, not common.

The treatment of hyperæmia of the brow sinus occurring in the course of an ordinary acute coryza is, fortunately for the patient, very satisfactory. The first indication is to reduce intra-nasal congestion, and thus relieve stenosis of the infundibulum. In the muriate of cocaine we have an agent perfectly suited to meet this indication: a small pledget of cotton soaked with not above ten drops of a five per cent. solution, is to be tucked up over the anterior portion of the lower turbinated body by means of a very delicate ear forceps (of course, under perfect inspection), and allowed to remain for about five minutes. The result is nearly always immediate, and frequently permanent relief from the tissue contraction; the pledget being removed, the intra-nasal region should be gently sprayed clean with some mildly stimulating, but entirely unirritating, antiseptic formulæ; the following is a favorite with the writer:

℞.—Listerine (Lambert) . . . . . ʃ℥iv.
Acid. boric. . . . . gr. xx.
Aq. rosæ } . . . . . āā ʃ℥ij.—M.
Aq. dest. }
S.—Use in atomizer.

The Schneiderian membrane being carefully cleared of all adherent mucus and dislodged epithelial elements, a powder somewhat like the follow-

ing should be insufflated into the region of the infundibulum:

℞.—Morphinæ sulph. . . . . gr. vj.
Atropinæ sulph. . . . . gr. j.
Bismuth. subcarb. . . . . ʒijss.
Acaciæ pulv. . . . . ʒjss.—M.

This formula must be carefully *bolted* into an impalpable powder. From two to four grains are to be used at each insufflation in the case of adults, much less when used in the case of children; four grains representing a full therapeutic dose of atropine.

In mild cases frequently no further treatment will be called for, or if somewhat severe in character, one or more daily repetitions will cure the case. Attention to the condition of the digestive tract is, of course, always called for, and a mild cathartic may be given. The bromides of potassium and sodium given in large doses, three to four drachms in the first twenty-four hours, and two drachms *per diem* subsequently, have often had an admirable effect on this condition in my hands.

Where deformity is evident and the pain great, more energetic measures will be called for. In addition to the intra-nasal applications I invariably order atropine sulphate internally, $\frac{1}{480}$th of a grain, every hour for sixteen hours, or until the throat is very dry. If there is decided tumefaction in the region of the sinus externally, a blister of cantharidal collodion should be placed over the frontal sinus or just above it. The symptoms may be expected to abate in twenty-four hours under this treatment, especially if the patient can be confined to the house. Without treatment even the mildest class of cases are exceedingly apt to go on to suppuration, the duration of pain and deformity occasionally being from two to three weeks.

The treatment of pus accumulations in the frontal sinuses has heretofore been usually of a severely heroic character, consisting of opening the anterior wall with a trephine, and frequently in addition passing a rubber drain through the external cut and through a counter-opening into the nose. In several works on diseases of the nose, which are regarded as classics, the writers speak, as a matter of course, of opening the brow sinuses through the nares, but none, so far as I am aware, gives any detailed account of methods nor reports any cases. The operation is regarded by the writer as one of extreme difficulty and much danger; trephining the anterior plate, at least, as a preliminary step is much to be preferred.

Lately Jurasz has reported several cases in which he was able to introduce a fine metal probe into the frontal sinuses through the infundibulum, thus opening a drainage canal for the catarrhal or purulent products to escape.

Trephining is, in my opinion, called for with extreme rarity in this affection; the resulting cicatricial deformity is great, and the dangers of sepsis largely increased; marked constitutional or cerebral symptoms can only justify its performance. If decided on, it must be done under the most rigid antiseptic precautions. Opening the infundibulum by even the most skilful manipulation of any probe, seems to the writer a most unscientific and dangerous procedure; any surgeon familiar with the intra-nasal region knows how exceedingly ill the Schneiderian mucous membrane endures mechanical irritation, and attempted dilatation of the infundibulum, even when possible, seems more likely to produce additional inflammation and stenosis of the canal than to give exit to pus. If the above method of procedure is consistently carried out, even pus accumulations will be discharged through the infundibulum, and a cure without operation or deformity result.

As above mentioned, many cases of chronic rhinitis, especially those in which the catarrhal tendency is particularly marked, suffer from severe congestion of the frontal sinuses with brow pain and much local discomfort. Very frequently these "catarrhal headaches" can be permanently relieved by proper treatment of the naso-pharynx without special attention being directed to the inflamed sinuses. If drainage from the infundibulum is interfered with by either vascular or fibrous intra-nasal swellings, they should be "tacked down" by Bosworth's method, and the planes of drainage brought into a normal condition, when a cure will result.

The following slight modification of Bosworth's technique is used by the writer in binding down hypertrophies for this and other purposes. A small cotton tuft saturated, but not dripping, with a five per cent. solution of cocaine muriate is placed in contact with the area to be operated upon, and allowed to remain for from four to eight minutes; tight contraction of the tissues is the result. A recently made, fully saturated solution of chemically pure chromic acid is then to be used in the following manner: a light, steel cotton-carrier, such as is used in ear work, is to be tightly bound at its extremity with a tuft of cotton, which when wound on the probe must not be above two millimetres in diameter, or more than one centimetre long. This pad being saturated with the acid, and carefully mopped with dry cotton until dripping is impossible, is to be carried, under full inspection, to the point of greatest hypertrophy (decided upon *before* the cocaine was applied), and held firmly in contact with the mucous membrane for at least twenty seconds.

Great condensation of the turbinated tissue at the point of contact results, together with a slough of varying, but always shallow, depth; the ultimate and speedy effect being to bind down firmly and

permanently the offending mass of tissue. A strong solution of bicarbonate of sodium should always be at hand, and if the acid show any tendency to spread, it must be liberally mopped over the seat of the eschar. Two or three "tackings" will nearly always assure good infundibular drainage, and along with general intra-nasal applications and bromides internally will, in almost all cases, rapidly cure the frontal headache.

The "catarrhal tendency" calls for treatment by regulated bathing, scientifically directed open-air exercise, proper clothing, and the administration of strychnine sulphate in progressive doses; the *gouty diathesis* will be found with extreme frequency in this condition, and advanced *neurasthenia* is frequently causative of the "catarrhal tendency," and will call for appropriate therapeutic measures. Leaving the complicated relationship for future consideration, it has been my experience that a very aggravated catarrhal diathesis is very frequently associated with *irritable heart*, a "cardiac explosion" almost always following or preceding a "cold."

Chronic purulent inflammation of one or both frontal cavities is certainly an exceedingly rare disease in the neighborhood of Philadelphia, and vague accounts of its occurrence and complicating influence in "nasal catarrh" must be taken *cum grano salis*. The symptoms complained of by probable cases of this disease are those already detailed in an aggravated form.

The prognosis is generally very unfavorable owing to the intractable nature of the causative nasal disease.

As to treatment, it may be confidently stated that if the nasal inflammation can be controlled and the infundibulum kept patulous, the frontal symptoms will cease. In a case of advanced atrophic rhinitis with the usual pharyngeal, laryngeal, and bronchial complications, now under treatment by the writer, in which a certain amount of purulent inflammation of both brow sinuses certainly existed, complete relief was gained by the repeated use of the faradic current; the positive pole being placed well up in the naris in the region of the infundibulum, and the negative over the brow of the corresponding side; careful and long-continued treatment of the *rhinitis cirrhotica* being, of course, persisted in, the methods followed having already been described by me in THE MEDICAL NEWS. Blisters over the frontal cavities have also yielded good results in my hands in these cases; and bromides, iodides, and ammonium chloride are valuable in selected cases.

In conclusion, it cannot be too emphatically stated that all the inflammatory diseases of the frontal sinuses, above noted, are wholly dependent on intra-nasal conditions, and the good results of treatment will be in direct proportion to the success obtained by nasal therapeutic measures.

49 NORTH SEVENTEENTH STREET,
PHILADELPHIA.

CASE OF ABSCESS OF LIVER; ASPIRATION; DEATH.

BY HENRY M. FISHER, M.D.,
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WILLIAM D., aged thirty-seven, married, English, cloth-finisher, was admitted to the Episcopal Hospital, November 6, 1888.

Patient stated that his health had always been good, but that eight weeks before his present admission to the hospital he began to have pains in his legs, back, and chest. Two or three weeks later, in consequence of the abdominal pains and obstinate constipation from which he suffered, he applied for admission to the Episcopal Hospital. Under treatment his pains diminished, however, and he left the hospital after a fortnight's treatment, but soon returned in consequence of an aggravation of the pains, and was first seen by me about three days after his readmission.

He had had no vomiting and no anorexia. Three weeks before his readmission he had noticed a swelling of his legs and abdomen and that his skin had a yellowish tinge.

Upon admission he had marked jaundice and there was œdema of the lower extremities, and apparently slight ascites. Liver dulness extended in the mammary line from the fourth interspace six inches, and the lower edge of the organ was distinctly felt in the median line three inches above the umbilicus. Abdominal veins were prominent and much tympanitic distention of the intestine. There was well-marked bulging in the right hypochondrium, and over the area, where the bulging was, marked pressure caused pain, while pressure over other portions of the abdomen did not appear to cause much discomfort. Bowels very much constipated. Ordered a muriatic acid mixture.

November 14. Increased bulging and fluctuation being discovered, Dr. Hopkins aspirated with a capillary trocar about two inches below the costal margin in the right hypochondrium and drew off five ounces of blood-stained pus. Five hours later, patient had a large chalky movement of bowels.

Ordered aromatic sulphuric acid, gtt. xv t. d., and quinine grs. xvj daily.

15th. Dr. Hopkins drew off with the aspirator eighty-four ounces of blood-stained pus. The aspirator canula was allowed to remain in the wound and the cavity was ordered to be washed out twice daily with Thiersch's solution. After the operation a great deal of clear bile and blood-stained pus drained away.

16th. Patient began to cough last night, and this morning has marked dyspnœa. Respiration 40. Marked dulness on percussion over lower third of right chest, with tubular breathing. Impaired resonance over lower fourth of left chest also, and breathing over this area somewhat bronchial in

character. Free discharge of bilious, grumous pus from the wound. Ordered carbonate of ammonium grs. x every two hours, and whiskey, twelve ounces daily.

22d. Impairment of resonance over lower third of right chest continues, and some subcrepitant râles are heard at the junction of the middle and lower third of the right chest. Dyspnœa has diminished, but patient is weaker and greatly emaciated. Has been taking for three days fel bovis, grs. x, extract. pancreatis, grs. v, ter in die. To-day ordered in place of carbonate the muriate of ammonium, grs. xx t. d. Passages clay-colored, and patient has a dusky hue.

The drainage tube having come away Dr. Hopkins replaced it by a larger rubber tube, and found that a sound passed easily five and a half inches into the abscess cavity. In spite of this, drainage is not satisfactory, as in injecting the cavity only a little grumous discharge is brought away. Appetite not markedly impaired.

From this time patient became progressively weaker. Large amounts of bloody and bilious pus and almost pure bile drained away.

On the morning of the 28th he was unconscious; he died in the afternoon of this day, just two weeks after the first puncture of the liver had been made.

Post-mortem examination, thirty hours after death. Body extremely emaciated. Decomposition had already begun.

Heart. Tissue friable, valves competent. Both auriculo-ventricular valves contain chicken-fat clots.

Lungs. Both lungs very much congested; right intensely so at its lower half, and shows very numerous hemorrhagic infarctions, but there is no pneumonic consolidation. Lobes of right lung glued together by recent adhesions. Right diaphragmatic pleura very much thickened by the deposit of lymph.

Peritoneal cavity contains a considerable quantity of blood-stained serum. Transverse colon glued to omentum by adhesions, and the lower end of the spleen is also adherent to the colon. Mucous membrane of large and small intestine throughout congested, and near the ileo-cæcal valve the colon shows very intense injection, and mucous membrane appears eroded in places, but no well-marked ulcerations are anywhere seen.

Liver extends from fourth interspace in the mammary line, to a point two and a half inches below the costal margin. Its tissue is stained with bile and is friable. There is a well-marked concave depression of its anterior surface. Upon section, a considerable amount (perhaps one pint) of grumous, blood-stained pus is evacuated, and it is then found that the tissue of both lobes has been largely undermined by an enormous abscess, fully one-third of the substance of the organ having been eroded in the ulcerative process. The abscess cavity is about five inches in length from above downward, extending from a point two inches from the upper margin of the liver to a point about one inch from its lower margin, and is about eight inches in its transverse diameter. A bridge of tissue, about half an inch in thickness bounds the abscess anteriorly. The abscess cavity contains numerous shreds of false membrane, but no marked evidences of commencing cicatrization are anywhere seen. *Gall-bladder* empty; its mucous membrane shows inflammatory thickening, and the cystic duct communicates directly with the abscess cavity. In separating the liver from its adhesions to the duodenum, the common gall-duct was unfortunately cut away, and its exact relations to the abscess could not be determined. Apparently it had been completely occluded by bands of organized lymph.

This case does not, it is true, throw any new light on the causation of hepatic abscess in general. There are, however, abundant grounds for considering all cases of hepatic abscess to be the result of septic infections. The only difference, as it seems to me, between the *pyæmic* and the *tropical* abscess of the liver so called is, that in the first the septic material expends its energies upon the liver as well as upon other organs, whereas in the tropical abscess the liver alone may be involved. In the case I have just reported, the liver, a portion of the right lung, and the adjacent portions of the peritoneum and pleura were involved. And the starting-point of all such suppurative inflammation in the liver, except in those rare cases in which the abscess is the result of direct violence, is undoubtedly either the intestine or gall-bladder.

Of course, where the mucous membrane of the intestine is actually ulcerated, as in typhoid fever and dysentery, poisonous germs might be supposed to gain freer access to the portal circulation than where it is either intact or simply eroded.

That such poisonous germs do actually exist in the intestine, not only in cases of acute febrile disease but also in cases of chronic enteritis and entero-colitis, has been proved. Now, in the case reported, there were evidences of chronic entero-colitis in the thickening and roughening of the mucous membrane of the whole intestinal tract. When constipation accompanies intestinal catarrh, as it appears to have done in this case, the danger of absorption of septic germs would necessarily be very greatly increased. The danger would, of course, be still further increased by privation, the eating of badly cooked, indigestible food, and, above all, by the drinking of impure water.

That tropical heat is not always and necessarily a factor in the production of the so-called "tropical" abscess, is shown by the fact that the disease appeared to have developed during the prevalence of cool autumn weather; and only so far as a high temperature favors the propagation of many poisonous germs can it, I believe, be considered to hold a causative relation to abscess of the liver.

As Dr. Osler has recently pointed out, we must dismiss from our minds the impression that abscess of the liver, the "tropical abscess" of the books, is, in our climate, a rare disease. The case reported is

the third that has been treated at the Episcopal Hospital in the last three months. The fact of their occurring soon after a severe epidemic of typhoid fever in a section of the city imperfectly provided with sewers, and which draws its main water supply from a notoriously impure source, certainly strengthens very much the theory of a septic causation.

With regard to operative interference in such cases, my experience is in accord with that of others, that mere aspiration is useful only as far as it tends to prevent the bursting of the abscess into some important cavity, like that of the peritoneum, when the result of such bursting would almost necessarily be quickly fatal.

Of course, if the existence of a small abscess in the liver can only be determined early, thorough evacuation might be made with the aspirator, but *small* collections of pus rarely are, and, probably, rarely can be determined with accuracy, unless they happen to be close to the surface of the organ, unless the exploring needle is used. The use of the exploring needle in a doubtful case would seem to be perfectly justifiable.

But where the abscess is of considerable size, free incision would seem to offer the only hope of free drainage and subsequent cicatrization. Where adhesions have not already been formed sufficient in extent to prevent leakage into the peritoneal cavity, it should be the surgeon's aim, I think, to secure adhesive inflammation by cauterization of the preliminary incision first, and to open the abscess cavity only when a protective wall of lymph has been thrown out.

But this may involve a delay of several days, and if marked symptoms of septic absorption supervene before the adhesions are formed, then, as a temporizing measure, aspiration with a capillary trocar may be resorted to.

919 WALNUT STREET, Dec. 20, 1888.

NOTE ON THE TREATMENT OF TONSILLITIS BY SALICYLATE OF SODA.

BY W. A. DEWOLF SMITH, M.D., L.C.P.&S. QUE.,
OF NEW WESTMINSTER, B. C.

ABOUT the 15th of September last, I was consulted by Mr. W. H. F. about his throat. He had been a sufferer from repeated attacks of tonsillitis, and on this occasion his throat presented the usual symptoms of that disease.

As on former occasions, various remedies, such as guaiacum, had been tried without any beneficial results, the patient was anxious to get the thing over with as soon as possible. He was accordingly made to steam the throat frequently, and had continued this for three or four days without any advantage, when my attention was directed to a note in THE MEDICAL NEWS of June 2, 1888, on the treatment of tonsillitis by salicylate of soda. I accordingly put the patient on a mixture containing salicylate of soda, with the gratifying result of finding in a day or two the soreness and swelling disappear from Mr. F.'s throat.

After a few days one of his tonsils again enlarged, although there was no pain, and I feared even then that an abscess would form as usual, but perseverance in the use of the salicylate met with its reward. The swelling disappeared in a couple of days and has not troubled him since.

The drug was given in the same dose and manner as recommended in the note referred to above.

MEDICAL PROGRESS.

A Case of Sulfonal Poisoning.—DR. BORNEMANN records in the *Deutsche med. Zeitung*, No. 95, the following case of sulfonal poisoning: A physician, addicted to the morphine habit, which he had acquired in trying to overcome headache during the past twenty-eight years, and who had visited ten "cure-institutions," came at last into the institution of Dr. Bornemann. On the evening of the 10th of May, the patient took for the first time thirty grains of sulfonal, without effect, and it was only after a second dose of fifteen grains, and one-third of a grain of morphia subcutaneously, that he fell into a sound sleep of eight hours duration. May 11th, forty-five grains of sulfonal were given at bedtime, without morphia; he slept till morning. May 12th, one-third of a grain of morphia, at bedtime sixty grains of sulfonal; no sleep. During the same night (1 A.M.), thirty grains of sulfonal; no sleep. Patient left his bed, acted like a drunken man, and fell several times; and when attempting to take hold of an object, he would miss it. Pupils contracted. On the morning of May 11th, patient slept four hours. Even while in bed, he believed himself drunk. On the same evening, he complained of the sensation of having two heads, two pairs of arms, and double vision. From that time on, the administration of sulfonal was discontinued, although patient kept constantly asking for it. It was not until May 18th that all apparent symptoms of poisoning disappeared.—*Wiener med. Presse*, No. 50.

Treatment of Ophthalmia in the Newborn.—At a recent meeting of the Society of Medical Science, of Lyons, this subject being under discussion, DR. GRANDCLÉMENT spoke very highly of nitrate of silver and sublimate, which he stated are the most powerful antagonizers of the gonococcus of Neisser. In support of this statement, he called attention to the experiments of Dr. Kreiss, of Vienna, who had arrived at the same conclusions.

Hence, the treatment of ophthalmia of the newborn should consist in cauterizing every twelve hours the palpebral conjunctiva and the conjunctival cul-de-sac with the following solution:

℞.—Nitrate of silver . . . 3 grains.
Distilled water . . . 1 drachm.—M.

Between the intervals of cauterization, the eyes are to be washed with a strong solution of sublimate, or with

lukewarm water, or with a ten per cent. solution of bicarbonate of soda, as practised by Dr. Castellan.—*Revue de Thérapeutique*, Dec. 6, 1888.

Urinology of Neurasthenia.—DR. DANA, from a study of the urinology of neurasthenia, deduces the following conclusions:

1st. The importance of classifying neurasthenic types.

2d. The existence of different conditions of the urine, corresponding to different forms of neurasthenia.

3d. The existence of a functional inadequacy of the kidney in certain types of neurasthenia.

4th. The greater frequency of heavy urines in irritative and diathetic forms of neurasthenia.

5th. The existence of a polyuria in certain forms of neurasthenia.

6th. The importance of recognizing these conditions by measuring and testing daily amounts.—*Cincinnati Lancet-Clinic*, Dec. 22, 1888.

Action of Phenacetin.—At a recent meeting of the Royal Academy of Turin, DR. PESCE reported the following results which he has obtained with phenacetin:

Phenacetin produces a marked and prolonged diminution of the temperature, leaving the patient, at the same time, in a stimulated condition. The fall and, later on, rise in temperature, is a slow and gradual one. With three-fourths of a grain at one dose, the temperature is generally reduced from 3½° to 5½° F. This fall does not, as a rule, produce any annoying or dangerous symptoms, save a general sweating. Phenacetin can be classified amongst the anti-rheumatics, in which disease it lowers the fever, removes the pain of the joints, and thus allows of freer motion. It will also be found of use in neuralgia, cephalalgia, migraine, and other irritating conditions of the nervous system.

As a rule, three-fourths of a grain doses will be found sufficient; if necessary, they may be repeated every two or three hours.—*Deutsche med. Wochenschrift*, Dec. 6, 1888.

The Diagnostic Value of the Tolerance of the Iodides in Syphilis.—DR. J. WILLIAM WHITE, in an article upon this subject, closes with the following conclusions:

1. Personal idiosyncrasy is so strong a factor in relation to the toxic symptoms produced by the iodides, that it quite overshadows any possible influence due to the existence of syphilis.

2. There are no satisfactory theoretical grounds for believing that syphilis in any stage prevents the production of iodism by a process of neutralization, and this is particularly unlikely to be true as regards the latter stages.

3. It is therefore most unsafe to base any diagnostic conclusion upon the presence or absence of toxic symptoms (iodism) after the administration of full doses of the iodides.—*Therapeutic Gazette*, December, 1888.

Painless Extraction of Teeth.—DRS. HÉNOGUE and FRIDEU, of Paris, state that the extraction of a tooth may be rendered painless by spraying the neighborhood of the external ear with ether.

The anæsthesia of the trigeminus so produced extends to the dental nerve, and thus renders the production of general anæsthesia needless.—*Popular Science News.*

For Sweating of the Feet.—

℞.—Salicylic acid . . . . . 3 parts.
Starch . . . . . 10 "
Talc. . . . . 87 " —M.

Or,

℞.—Salicylic acid . . . . . 2 parts.
Mutton tallow . . . . . 100 " —M.

Apply to feet.

(The last formula is used in the Prussian army.)—*Les Nouveaux Remèdes*, Dec. 8, 1888.

How to Accelerate the Growth of Bones in Man.—A novel suggestion is made by Dr. Schneller, of Berlin, for the purpose of accelerating the growth of the long bones, with a view to the prevention or rectification of deformities arising from the unequal length. It is well known that irritation of the diaphyses of long bones brings about an increased blood supply, which, by increasing nutrition, stimulates bone formation, while lesions of the epiphyses produce an arrest of development, at any rate for the time being. Ollier is reported to have remedied the deformity resulting from a short radius by destroying the intermediary cartilage of the ulna, and putting a stop to further growth. Dr. Schneller has improved on this rather risky procedure. He inserts a nickel iron spike into the diaphysis of the short bone, allowing it to remain *in situ* for nine days, when he withdraws it and allows the wound to heal. When cicatrization has taken place he applies an elastic band moderately tightened, higher up the limb, so as to increase, by stasis, the quantity of blood in the limb. In all the cases treated by this method, the difference in length of the bones rapidly decreased, and atrophied muscles acquired fresh functional activity and became larger. He mentions a case of genu valgum in which he succeeded in restoring symmetry and remedying the preëxisting laxity of the ligaments. —*Medical Press*, December 12, 1888.

Treatment of Eczema.—The treatment, which consists in the isolation of each pustule, is proceeded with as follows:

1st. *External medication.* Continue the application of soft poultices until the crusts covering the pustules have become detached; then cover each of the ulcers with Vigo's plaster, which is to be left on for three days, unless previously detached through the process of suppuration. Under this covering, budding and cicatrization will take place rapidly.

2d. *Internal medication.* The diet to consist of rare meats, fresh vegetables, and plenty of wine. In most cases, the addition of iron and quinine will be beneficial. —*Revue Gên. de Clin. et de Thérap.*, October 25, 1888.

Buckthorn for Toothache.—The peasants of the southern part of Russia have the habit of overcoming an attack of toothache by gargling with a decoction of buckthorn (Rhamnus catharticus). DR. GRETCHINSKY, having prescribed gargles of this decoction, to be repeated every five minutes, observed that the toothache was dispersed within thirty minutes, but in its stead was left a sensation of itching and a dull pain. To overcome this phenomenon entirely, the author ordered the insertion of small cotton pledgets saturated with this preparation. The result was excellent. To prepare this decoction, put one

hundred parts of the bark into so much boiling water that, after filtering, two hundred parts of the water remain, to which add ten parts of alcohol.—*Druggisten Ztg.*, No. 44, 1888. *Les Nouveaux Remèdes*, Dec. 8, 1888.

Diuretic Action of Mercurial Preparations.—DR. WLADYSLAW BIEGANSKI, in a thesis upon this subject, concludes with the following *résumé*:

1. The action of calomel and other mercurial preparations is a diuretic one; under its influence the secretion of urine is augmented.

2. This action is observed to the greatest advantage in the œdema of cardiac origin.

3. The diuretic action is observed, no matter what preparation or method of administration is used; the most marked action, however, is noticed after subcutaneous injections, less so when given by mouth, and the least marked when used in the form of inunctions.

4. Small doses of mercury do not produce diuresis, only large doses.

5. The diuretic action of mercury is probably due to its irritant action upon the kidneys.—*Archiv f. klin. Med.*, Bd. 42. *Centralbl. f. d. ges. Therapie*, December, 1888.

An Ointment for Ciliary Blepharitis.—

℞.—Ointment of zinc, White precipitate . . . āā 7½ grs.
Vaseline . . . . . ʒiij.

Or

℞.—Oil of birch, Oil of eucalyptus . . . āā 7½ grs.
Vaseline . . . . . ʒiij.—M.

Rub some into the borders of the eyelids three times daily.—*L'Union Médicale*, December 8, 1888.

Treatment of Syphilis with Hypodermatic Injections of Sublimate in Olive Oil.—Of late, many authors have written about the subject of hypodermatic injections of mercury in the treatment of syphilis. DR. CRUYL has tried the method in numerous cases, and adds his experience to the unsatisfactory results of Scarenzio, Balzer, and Neisser, which are that injections thus made cause irritations, indurations, and abscesses. It was to avoid the latter that the author tried the injections of the metal with olive oil as a medium, with the results, that out of two hundred injections thus made, not one was followed by induration or pain.

The mode of procedure is as follows: The needle of the syringe having been rendered thoroughly antiseptic, is filled with the injecting fluid, and forced deep into the subcutaneous tissue in the dorso-lumbar region.—*Revue Gén. de Clinique et de Thérapeutique*, December 6, 1888.

On the Hypodermatic Use of Morphia.—DR. EDWARD O. DAILY, M.A., M.R.C.P., in a thesis upon this subject, concludes with the following well-founded remarks:

1st. Never inject a larger quantity than one-sixth of a grain in a person unaccustomed to morphia.

2d. Never give an injection of morphia to a person suffering from hysteria.

3d. Never give an injection to a person cured of the morphia craving.

4th. Never hand over the syringe to the patient himself.—*Medical Chronicle*, December, 1888.

Faradic Electricity in Hysteria and Epilepsy.—DR. DIDIER, in a paper upon this subject read before the National Society of Medicine of Lyons, presented the following conclusions:

1st. Of all the means employed heretofore to arrest and possibly to abort an attack of hysteria, faradic electricity is without doubt the best. It has arrested attacks of convulsive hysteria in all the cases in which it has been tried, and in two cases of hysterical epilepsy. Further, this method possesses great advantages over compression of the ovaries, which, if too often repeated, may be followed by grave results.

2d. Faradization permits, in difficult cases, of a diagnosis being made between epileptic and hysterical attacks, as in the former the attack is not modified, while in the latter it is arrested.

3d. By means of faradic electricity, one can distinguish in a patient suffering from two neuroses, at one time, the symptoms which belong to hysteria since they are arrested in their course, and epileptiform manifestations which run their complete course, notwithstanding the efforts to arrest them.

4th. The mode of operation consists in applying the electrodes of a faradic current of moderate intensity along the course of the aura—that is, along the epigastric region and to the anterior portion of the neck. Application is then to be renewed only during the tonic or clonic period; one electrode is then placed to the neck and the other is taken in one hand, or else both electrodes are taken in both hands.

5th. Besides possessing an abortive power over the hysterical crisis, faradization has at the time other curative effects, which are too well known to need mentioning here.—*Lyon Médical*, December, 1888.

New Operation in Empyema.—DR. M. S. SUBBOTIN, of Kharkoff, describes, in the *Vrach* (No. 45), a new operation he has devised for opening the thoracic cavity in empyema, with the view of obviating the danger arising in Estlander's operation, and in the modifications of it practised by Schede and Sprengel from the extensive raw surface which is necessarily allowed to remain in contact with the purulent discharge. Prof. Subbotin suggests that in cases in which the lung itself is free from disease, the unyielding nature of the thoracic wall may be overcome without the removal of ribs by simply cutting them through; also, that if a rib is divided in two places, and the intermediate portion removed, the chest-wall will become flexible, and may be pressed inward, so as to lessen the cavity of the empyema, and in this way assist to put an end to the suppuration. After thinking out a plan based on the above considerations, he determined to apply it in operating on a case under his care in the Kharkoff clinical wards last June. The patient having been chloroformed, an incision was made along the seventh rib, which was then stripped of its periosteum, and excised to the extent of seven or eight centimetres. An extensive opening was here made into the pleural cavity. After the pus had been evacuated, the cavity was carefully cleansed, and the opening well covered with gauze, and a gauze compress applied. An incision was then made along the border of the pectoralis major, about five centimetres in length, exposing the sixth, fifth, and fourth ribs, and these were cut away (the periosteum not being left) with forceps until the rib became movable.

Another incision was then made in the line of the posterior fold of the axilla, exposing the same ribs, which were again divided as before; the wounds were then sutured and dressed with gauze, a large, thick pad of the same substance being applied outside, with a good compress bandage round the thorax. The upper wounds were kept from communication with the empyema. When, after a few days, the intra-thoracic wound was dressed, a drainage tube was put in. The case recovered, but three months after the operation there was still a small sinus which continued to discharge.

The advantages claimed by Prof. Subbotin for his operation are: the small raw surface which is left in contact with the purulent matter; and the firm but movable portion of the thoracic wall which can be pressed inward by bandaging, so as to diminish to a considerable extent the size of the cavity.—*Lancet*, December 15, 1888.

Iodol as an Internal Remedy.—DR. DAUTE CERVESATO, of Padua, gives in the September number of *Lo Sperimentale*, an account of his observations on the internal administration of iodol, the first of which were made upon scrofulous patients, in whom the remedy acted very favorably in whatever form it was given. It acted best when the lymphatics had not as yet undergone purulent infiltration. In scrofulous affections of the mucous membranes, such as scrofulosis of the nose, or scrofulous otitis, the beneficial action was but limited, and still more limited in scrofulous affections of the skin. The author administered the iodol to children in daily doses of 8–15–23 grs., continued from two to three months, with good results. The internal administration was supplemented by external inunction of an iodol salve (1 part to 15 of vaseline), or by iodol insufflations. The remedy was well borne; the appetite and digestion generally improving.

In diseases of the respiratory organs, the drug was given in from 15 to 45 gr. doses, in conjunction with the inhalation of the following solution:

Iodol, 1 part dissolved in 5 parts of heated alcohol, filtered; 10 parts of glycerine, heated to 60° or 70° F., were then added, and before the solution cooled, 10 parts of water were also added. For each inhalation, of which two or three were taken daily, 4 drachms of this solution suffice.

In the first stages of laryngeal tuberculosis, great improvement was observed, but still greater beneficial results were obtained in acute and chronic laryngitis. In tertiary syphilis, the specific action of this drug was well marked. Two cases of syphilitic suppuration of the roof of the mouth and syphilitic ulcers of the pharynx, healed under the internal administration and external applications of iodol, continued for two months. Internally the iodol was administered in from 15 to 45 gr. doses, while locally the following was applied:

℞—Iodol . . . . . 15 grs.
Alcohol . . . . . ℥jv.
Glycerine . . . . . ℥j.

In none of the cases treated were any symptoms of iodism observed.—*Wiener med. Presse*, No. 49, 1888.

Therapeutic Action of Hyoscin.—DR. KNY, of Strassbourg, has tried the muriate of hyoscin (Merck) in a number of cases. The subcutaneous administration was soon discontinued. Taken by the mouth the results obtained were more satisfactory. Eighty-eight patients of the Strassbourg Insane Asylum were given 3000 single doses; after the lapse of one to two hours, a six to eight hours sleep was obtained in 82.2 per cent. of the cases. Most failures were observed in cases of insomnia without motor excitement, while the best results were obtained in insomnia accompanied with marked motor phenomena, as, for example, in mania and paralysis. The dose was from $\frac{1}{120}$ to $\frac{1}{24}$ gr. As a rule, patients soon became accustomed to this amount, necessitating an increase in the quantity administered, which was gradually increased to $\frac{1}{12}$ gr. the maximum dose. In only one case did the remedy prove to be inactive.

The disagreeable symptoms produced by hyoscin are dryness of the throat and great thirst, while its advantages are absolute tastelessness and great solvency and cheapness.

Attacks of recent mania were cut short by this remedy. In paralysis agitans and multiple sclerosis, it proved to be a palliative remedy. Digestive disturbances, of short duration only, were noticed in some cases.—*Deutsche med. Wochenschrift*, December 6, 1888.

Ocular Antisepsis.—*Oxycyanide of mercury* is a very stable salt, very soluble, a non-acid, does not precipitate albumin, and attacks metals but slightly. Patients bear it better than the bichloride, and it acts better upon the *micrococcus aureus* than the latter. DR. CHIBRET employs this salt in solutions of 1 to 1500, which he prescribes under the form of eye-baths, because the effect is more powerful when its direct contact with the mucous membrane is prolonged. After operations for cataract he also employs it for irrigating the anterior chamber, having previous to the operation allowed his instruments to rematn in the solution for several hours.

Hirschberg, of Berlin, employs a sublimate solution of 1 to 5000 as the excipient of his collyria for a cataract case and Mayen uses a solution of 1 : 2500 for a wash in the same operation.—*Bulletin gén. de Thérapeutique*, November 20, 1888.

Creasote in Chronic Lung Affections.—DR. SOLTMANN reports having administered creasote in eight phthisical cases with satisfactory results. He prescribes:

℞.—Creasote . . . . . gtt. 4–14.
Spirits of ether . . . . . gtt. 6–12.
Water. . . . . ℥1½.
White sugar. . . . . ℥2½.

One teaspoonful every two hours, the entire quantity to be taken in two days.

Increase of appetite and body-weight and a disappearance of the lung symptoms were noticed in most of his cases.

Parenchymatous creasote injections in phthisis pulmonalis (a 3 per cent. oil solution) were tried by DR. ROSENBUSCH with good results. The injections were made in the two intercostal spaces or in the supra-spinata fossa.—*Deutsche med. Wochenschrift*, December 6, 1888.

Operation for Excision of Eyeball.—DR. COPPEZ, of St. John's Hospital, Brussels, publishes, in the current number of *La Clinique*, the details of a method of enucleation which he considers to be easier and simpler than the methods of Bonnet and of Tillaux now in use. The

patient having been anæsthetized, and the eyelids separated by a speculum, a thread is passed transversely through the cornea by means of a curved needle; the ends of the thread are knotted, and the loop held in the left hand. By traction on this loop the eye is drawn slightly forward, and with a curved scissors the conjunctiva is divided close to the corneal edge. The subconjunctival tissue is then torn through, and the tendons of the recti muscles come into view and are divided; next, the tendons of the oblique muscles, and, finally, the optic nerve. Dr. Coppez claims for his operation that it may be practised with fewer instruments—a curved needle, scissors, and a speculum; that the optic nerve may be divided more directly and at a greater depth in the orbit, which, in the case of malignant tumors, is of great importance; and that the consequent hemorrhage is less considerable than in the ordinary operations. The only objection to it, he thinks, is that the globe might be rendered flaccid by the escape of the aqueous humor through the needle-holes, but that is of little importance.—*Lancet*, December 15, 1888.

Salol in Skin Affections.—DR. EDMUND SAALFELD, of Berlin, reports successful results obtained with salol in the treatment of various skin affections. According to his experience, a 5 to 8 per cent. ointment of salol with vaseline or with balsam of Peru and cold-cream, acts better than the ordinary ceratum plumbi subacetat., or the ointment of salicylate of soda.

Remarkably prompt results were obtained in some cases of impetigo contagiosa. One patient suffering from sycosis simplex, which had spread over the entire face and neck, obtained marked relief from salol ointment, to which Dr. Saalfeld subsequently added sulphur and carbonate of potash, with the satisfaction of seeing the disease entirely disappear.—*Deutsche med. Wochenschrift*, November 22, 1888.

Pastes in Dermatology.— Since Lassar introduced into dermatological practice the use of salicylic paste, the utility of pastes in irritable conditions of the skin has been abundantly proved. DR. GRUENDLER, of Hamburg, has recently (*Monatsh. f. Prakt. Derm.*, No. 20) made some interesting experiments in Dr. Unna's laboratory on the relative capacity for the absorption of water inherent in various powders, which might be used in the preparation of these pastes. He found that carbonate of magnesia had remarkable qualities in absorbing water, and therefore ought to be an excellent ingredient for the formation of a paste. Unfortunately, however, pastes made of a mixture of fat and carbonate of magnesia do not possess the proper consistence. When, therefore, this highly absorbent quality of carbonate of magnesia is desired, it is advisable to combine it with the other powders commonly used. For example, fifty parts of oxide of zinc or starch may be mixed with ten parts of carbonate of magnesia, and the whole rubbed up with fifty parts of fat to form a paste, or as a simple absorbent powder it may be very conveniently used mixed with oxide of zinc.—*British Medical Journal*, Dec. 15, 1888.

Paralysis after Pneumonia.—DR. B. H. STEPHAN mentions in the *Weekblad* twenty-five cases of pneumonia which came under his observation, in which he thinks two points are of special importance. The first is the high death-rate, nine out of twenty-five patients, or thirty-six per cent., dying; the second point is the adynamic or asthenic character of the pneumonia, in which the brain symptoms predominated and the pulmonary affections were secondary. Dr. Stephan thinks that these considerations, and the complications of a typhoid or bilious nature which may arise, point to the conclusion that pneumonia, under certain aspects, must be regarded as "specific fever." He believes that adynamic pneumonia is more frequent now than formerly, which leads him to the conclusion either that the constitution of individuals predisposed to pneumonia must have altered, or that the causes of pneumonia itself are changed. Dr. Stephan considers it not improbable that the first hypothesis may be correct—namely, that the frequency of neurasthenia in the present day shows the weakening of the cerebro-spinal system. A surgeon told Dr. Stephan he had practised bloodletting with the most successful results for thirty years at Drente, but that of late, in Holland, he had become very shy of doing so in inflammatory affections of the chest. The question suggests itself whether former practitioners acted wrongly in their treatment of pneumonia, or whether the physical condition of patients is now altered.

Out of the twenty-two adult patients treated by Dr. Stephan, twenty were men exposed to very decided changes of temperature. The fact is undoubted that more men than women are attacked, and Dr. Stephan considers it very probable that chills and infection are directly connected. The theory that bacteria are a cause of pneumonia appeared to him a plausible explanation. If the pneumococci are only waiting an opportunity to attack us, then the hypothesis that a lesion in the lung is favorable to their development is intelligible. What may happen in the case of traumatism may happen in the case of a chill. In a healthy condition the body is entered by countless bacteria, which are kept in check by the normal resisting power of the healthy tissues, but as soon as the normal equilibrium is upset, one or other of the organs is attacked and becomes the sport of these bacteria.

Dr. Stephan mentions two cases of paralysis ushering in pneumonia; the first was a man, who was suddenly attacked with apoplectic symptoms. In two days the whole of the right lung was solid with pneumonia; the pneumonia ran a regular course, but the paralysis of the arm, leg, and facial muscles did not disappear completely for three months. In the other case, a child of two years, the pneumonia was preceded a few hours by strong convulsions, after which symptoms of meningitis became well marked; the lung disease followed, and the child died on the eleventh day. In conclusion, Dr. Stephan remarks that paralysis has sometimes occurred at the commencement, during the course, or at the end of an attack of pneumonia; and where there has been a necropsy, either meningeal symptoms have been found or else there were no macroscopic or microscopic lesions. The most probable explanation of the first category is that the pathological anatomical lesions rest on the extra-pulmonary localization of the pneumonia poison. In the second, the explanation probably is that the pneumonia poison, either directly or through the medium of the bloodvessels, occasions dynamic disturbances in the nerve-centres or nerve-trunks.—*British Medical Journal*, December 15, 1888.

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SATURDAY, JANUARY 5, 1889.

EYE SYMPTOMS AND CEREBRAL LOCALIZATION.

THE fact that, of the twelve pairs of cranial nerves, six pairs are concerned in supplying the eye and its immediate accessories, suggests, but inadequately, the importance of what are known as eye-symptoms in the diagnosis of cerebral disease. The minute differentiation and definite association of function here exhibited, as in convergence and conjugate deviation, in binocular vision, and the connection of certain particular portions of the retina with certain portions of the cerebral cortex, open great possibilities of accuracy and refinement in cerebral localization.

The fact that several of the nerve trunks in question run comparatively long distances within the cranium, after emerging as trunks from the brain mass, makes it almost certain that one or more of them will be involved in any considerable disease of the base of the brain, or its membranes. The palsies resulting from such involvement are very fairly understood, and by their grouping or association are very important in localizing the lesions causing them. Many well-reported cases of such palsies are on record, and available for present or future study; and as the anatomical basis of connection is obvious and generally understood, this kind of localization is well advanced. But when we come to the localization of lesions involving the cortex, the commissural fibres, or even the ganglia at the base of the brain, we find that the intelligent study of the subject is just beginning.

The really important literature of the subject consists of reports of only a few isolated cases that have been well studied, and a considerable accumulation of results obtained by physiological experiment, the value of much of which is yet to be determined. The important practical deductions to be based often on a single well-studied case are full of encouragement to the observer. It may well happen in the present state of our knowledge, that a single well-conducted autopsy, added to a careful observation of symptoms, will be enough to save one life, or even many lives. But a case to be of much value must be thoroughly studied, and by the aid of all the light obtainable from the records of predecessors in this direction. Because of its omissions all the older literature of brain diseases is worthless. And in this connection it should be mentioned that negative results of carefully applied tests may give just as much light as to the connection of lesion and symptoms as any positive results can give.

Attention to this subject has heretofore been too much confined to a few specialists, and the group of operators who will soon be spoken of as "cerebral surgeons." Mr. Henry R. Swanzy, of Dublin, in the "Bowman Lecture" for 1888, before the Ophthalmological Society of the United Kingdom, which is published in the London weeklies, places a good *résumé* of our present knowledge of the subject before the ophthalmic surgeons, who must frequently have opportunities of studying the eye-symptoms of brain disease, at times when their diagnostic significance is most certain. For it is usually the permanent symptoms to which most importance is to be attached for purposes of diagnosis; it is the palsy that remains long after an otherwise complete recovery from apoplexy, or the spasm that appears before the case is suspected to be one of cerebral degenerative change, that best localizes the mischief. These are commonly manifestations of the loss or impairment of function in the part directly affected, and hence are called the "direct" symptoms. When the morbid process is at its height, the part in which it is located is liable, by its reaction on other parts with which it is intimately connected, to pervert or hold in abeyance their function also; although the parts thus secondarily affected may, themselves, be perfectly healthy. In this way arise the symptoms which have been called "indirect," and which may greatly increase the difficulty of localizing the lesion. Swanzy proposes to call these latter "distant symptoms," rather than "indirect," which, he

agrees with Dr. Gowers in thinking, conveys a false conception of their nature.

The most common symptom of focal disease, derivable from the motor apparatus of the eye is conjugate deviation of the visual axes; which are turned toward the side of the lesion in paralysis, and from it in spasm. That a cortical centre governing this movement exists, cannot be doubted, but its location is not yet certainly ascertained. The difficulty in fixing it arises from the same condition as that which causes the frequency of interference with its function, and which robs its occurrence of any special significance; that is, from its wide connections and consequent liability to "distant" or "indirect" involvement. From our common and instinctive acts we would expect the centre for turning the eyes to one side would be connected more or less intimately with the centre for hearing, and all centres for touch, and even for motion for that side. The symptom may, however, be of importance in indicating the side of the lesion, when, as in coma, other symptoms cannot be elicited. The existence of other cortical centres, which we are as yet unable to localize, is indicated by a condition, in a sense, the opposite of conjugate deviation, in which one eye is turned downward and outward and its fellow upward and inward; or by paralysis of upward and downward movement alone, or by ptosis without other oculo-motor paralysis. Nystagmus, too, is of little value for localization.

As, however, we leave the cortex, and come to consider focal lesions of the basal ganglia and tracts, the localizing value of the symptoms increases. Thus, ptosis or other third nerve paralysis, partial or complete, with simultaneous hemiplegia affecting the opposite side, indicates disease of the crus cerebri; while paralysis of the sixth nerve, with simultaneous crossed hemiplegia, indicates a focal lesion of the pons. Isolated and complete paralysis of the third, fourth, or sixth nerves is almost always basal—that is, trunkal. In paralysis of the fifth nerve, the occurrence of neuro-paralytic ophthalmia points to disease involving the nerve trunks; its absence pointing rather toward the nucleus or the commissural fibres in the pons as the seat of the lesion. The state of the pupil has always attracted attention in cerebral disease, yet so imperfectly have the mass of cases been observed and recorded that we know scarcely as much of the significance of mydriasis and myosis as of other third nerve symptoms. Loss of the light-reflex has much the same significance in blindness that neuro-paralytic ophthalmia has in fifth nerve palsy, pointing to a trunkal and not a central lesion.

In hemianopsia we have a symptom which rivals in importance those affections of the motor centres for speech, and the various movements of the face and upper extremity, that have played such an important part in the history of cerebral localization. There is no centre in one-half of the brain for the opposite eye; indeed, it is at least uncertain if such a condition as a crossed amblyopia occurs, although good observers have described it. But the right half of the brain is concerned with the perception of objects to the left, and, therefore, is in connection with the right half of both retinas, and *vice versa*. Loss of function of one cortical centre or of the tracts connected with it, leads to inability to see anything situated to the other side of the visual axis, or homonymous hemianopsia, the only kind of half-blindness that is of frequent occurrence, or very general interest. In connection with it, the presence or absence of the light-reflex of the pupil when light is thrown on the blind half of the retina, tells whether the lesion is central or situated in the so-called optic tract. There can now be no doubt that the visual centre is situated in the occipital lobe; included mainly in the cortex of the cuneus and superior occipital convolution. At least, that this is the centre for form-vision. A few well-recorded cases indicate that the centre for color-vision is so entirely distinct that it can be functionally destroyed, causing, when the lesion is limited to one hemisphere, hemiachromatopsia, without serious impairment of form-vision. This centre for color-vision seems to be located rather in the posterior part of the superior and inferior occipito-temporal convolutions. Again, it is not impossible that there is a centre for the so-called light-sense, distinct from those for form and color. More than this, cases of incomplete hemianopsia would seem to show that even smaller subdivisions of the retina are represented each by its particular subdivision of the cortex.

The localization of lesions causing "mind-blindness," "word-blindness" or alexia, and "dyslexia" or inability to read more than a few words consecutively, because of a sense of dislike or disgust engendered by the effort, is as yet not sufficiently certain to make them of much practical importance; but the little we do know in this direction opens up a most inviting field for further

study. In the study of focal disease of the brain it is of great importance, as Swanzy points out, that not only shall symptoms be studied and recorded with the skill and accuracy of the specialist; but that the necropsy should be conducted with the greatest precision, and the examination of the brain, in all cases, entrusted to skilled pathologists and microscopists.

IN New York City, the Presbyterian Hospital has opened a large "annex," as it is called, to be used as an out-patient department. The Montefiore Home for men having chronic or incurable disease is completed. Both of the above are non-sectarian institutions.

At Bellevue Hospital the new training-school for male nurses is in operation, a class of twelve young men being the first to avail themselves of this newly established drill. At the Cancer Hospital, which has been hitherto wholly devoted to the treatment of females, it is proposed to complement its charitable work by an additional pavilion for males; this will be built and endowed by Mr. John Jacob Astor.

A large brewing interest, on Staten Island, proposes to construct a free Infirmary for its employés, among whom the sickness-rate is high, accidents are frequent, and the people, as a rule, improvident and inclined to fall back on their employers in times of disability. At Brooklyn, a North-German or Platt-deutsche hospital is under consideration, a considerable sum of money having been acquired for the purpose.

At Elmira a handsome little hospital has been given to the public by members of the Ogden and Arnot families.

From this it will be seen that, in New York State at least, the poor are not likely to suffer in the near future for the want of gratuitous medical service.

OUR excellent contemporary, *The Canadian Practitioner*, will be issued hereafter as a semi-monthly, under the same editorial management that has won for it a leading place in Canadian medical journalism.

THE case of sextuple birth reported to have occurred in Navarro County, Texas, which has been going the rounds of the papers, both lay and medical, and to which reference was made in our issue of December 15th, upon investigation, we learn, "originated in the fertile imagination of an ingenious reporter, and is fiction without the least foundation of fact." We are also further informed by a prominent physician in that locality, that no such incident has occurred there and no family of the name given in the newspaper report resides there.

DR. CHARLES V. CHAPIN, who has been Superintendent of Health of the city of Providence, R. I., since 1884, has now been elected to the additional office of City Registrar, to succeed Dr. E. M. Snow, deceased, who had held the position continuously since 1855.

THE following committee has been authorized to receive subscriptions in America for the "Langenbeckhaus," which is to be erected in Berlin as a memorial to the late distinguished surgeon whose name it will bear: Dr. von Herff, of San Antonio, Texas, chairman; Dr. Baumgarten, of St. Louis; Dr. Ferrer, of San Francisco; Dr. Emil Fischer, of Philadelphia; Dr. A. Jacobi, of New York; Dr. Löber, of New Orleans; Dr. Mendel, of Milwaukee; Dr. Salzer, of Baltimore; and Dr. Lange, of New York, secretary.

FROM a London letter to the *Medical Press* of Buffalo, we quote a curious illustration of the extent to which specialism has become popularized abroad:

"Shortly after coming to London I was invited, through the courtesy of one of England's most noted surgeons, to be present at one of his operations. During the operation a telegram was handed to him which he read and handed over to me. It ran thus: 'Can you recommend us a good surgeon for the elbow-joint?' The joke about the matter was that at the same time he was treating the ankle-joint of another member of the same family, a sister of the patient for whom the inquiry was made and living in the same house. Other and equally absurd examples often come up from time to time, and make one wonder where the matter will end."

The correspondent argues that this incident shows that the hold of specialism is far stronger over the English public than it is in this country.

THE American Association for the Study of Inebriety offers a prize of one hundred dollars for an essay on the lesions of chronic alcoholism capable of microscopic demonstration. Each essay must be accompanied by microscopic slides which will sustain the arguments or positions of the writer. The competition ends October 1, 1890, by which date all essays should be in the possession of Dr. W. H. Bates, 175 Remsen Street, Brooklyn, N. Y.

SOCIETY PROCEEDINGS.

THE PHILADELPHIA NEUROLOGICAL SOCIETY.

Stated Meeting, November 26, 1888.

THE VICE-PRESIDENT, CHARLES K. MILLS, M.D., IN THE CHAIR.

DR. MILLS made some remarks on the classification of

DYSTROPHIES,

arranging them into cases of muscular, neural, spinal, and cortico-spinal origin. He referred to the classifications of Erb, Gray, and Sachs. Speaking of dystrophies as complicating or added affection, he said that, in a considerable list of cases, a dystrophic condition is a marked, but not the only feature, of certain well-known nervous diseases, as, for example, glosso-labio-laryngeal or bulbar paralysis, ophthalmoplegia externa or progressive paralysis of the external ocular muscles, and true poliomyelitis in its various types—acute, subacute, and chronic.

Atrophy of the tongue is occasionally seen as an isolated affection, but more commonly in association with other diseases, such as ophthalmoplegia externa, glosso-labio-laryngeal paralysis, or regular or irregular forms of sclerosis. Whether an isolated affection or simply an incident of another disease, it may be unilateral or bilateral. Raymond and Artaud have recorded a case of unilateral degeneration of the hypo-glossal nucleus in tabes, and other cases with acute apoplectic onset have been reported. Westphal demonstrated a similar interesting specimen from a patient who had ophthalmoplegia externa and complete paralysis of both eyeballs, and atrophy of the antero-lateral portion of the left side of the tongue.

With almost every form of sclerosis described as a separate disease, a dystrophy may, at times, be associated, as his own experience had shown. In posterior spinal, lateral, amyotrophic lateral, or disseminated sclerosis, early or late may develop progressive muscular atrophy of one or more extremities; or a bulbar paralysis of either the glosso-labio laryngeal, or of the external ocular type. Such cases are included in the list to be presented at the present meeting. It might be worth while to discuss the question of the identity or not of progressive muscular atrophy and amyotrophic lateral sclerosis, some authorities denying the justice of any distinction. Charcot regarded the degeneration of the pyramidal tracts as primary, and the affection of the horns as secondary, and hence the name given by him.

Besides the joint affections which occur in the course of posterior sclerosis and other spinal diseases, cases are sometimes seen in which widespread disease of the joints is associated with equally widespread atrophy, giving a form of arthritic muscular atrophy to which Gowers devotes a few pages, and which has been discussed by Duchenne, Vulpian, Paget, and others. The atrophy which commonly attends inflammation of the joints is not to be altogether explained by disuse. The joint disease may be the cause of the atrophy, or the two may be associated and due to a common cause. Paget speaks of these cases as reflex atrophies due to disturbance of some nutritive nervous centre, irritated by the painful state of some of the sensitive nerve fibres. In some of the cases of widespread arthritic atrophy the joints are extremely painful, and in some not.

Dr. Mills presented notes, and exhibited patients, illustrating some unusual forms of dystrophies.

CASE I. *Progressive muscular atrophy of traumatic origin.*—J. G., aged forty-four years, white, born in Germany, laborer, was admitted to the Philadelphia Hospital March 1884. In June, 1876, he fell from a scaffold and sustained severe injuries in the cervical region, for which he was treated at the Pennsylvania Hospital for two years, when he was discharged, able to do light work. In December he resumed work as a stonecutter, and considered himself well up to February, 1884, when he fell from a scaffold, and again hurt his spine, this time in the dorsal and lumbar region. During five weeks after the accident he lost all control of the bladder. On several occasions after his admission he passed blood with his urine. Four weeks after the accident he felt two constricting bands, one at the level of the nipple, and the other just below the umbilicus. The upper band tightened at the least movement of the arms, almost preventing respiration, and on attempting to rise, the lower band tightened. He complained also of a burning sensation in the soles of his feet.

In 1884 it was noted that he was able to walk; but had marked atrophy of the muscles of the shoulder and arm. The thumb was strongly flexed, and the fingers were contractured. He also had some atrophy of the muscles of the lower extremities. Recent examination shows extreme wasting of the muscles of the upper half of the body, at least as far as the face. Most of the muscles of the neck are visibly atrophied, but the trapezius and sterno-mastoid are in good condition. The muscles are uniformly atrophied in the upper half of the body. On tapping the pectoral muscles over the ribs, local elevations occur. No fibrillary tremors are noticeable. There are irregular contractures of the hand and a striking appearance of the thumbs. The second phalanx is flexed, and the first drawn backward at a right angle. The muscles of the legs are atrophied to a less degree. Knee-jerk is exaggerated and ankle clonus marked, most on the left side. Faradic contractility is retained to a current of moderate strength. Partial degeneration reaction with galvanism is present.

CASE II. *Progressive muscular atrophy of traumatic origin.*—N. S., aged thirty-four, white, born in Germany, a sailor, during his infancy was sickly, but after the age of two years was strong and healthy. He denied any specific history. He had malarial fever in the summer of 1884, for three weeks, but recovered perfectly so far as he knows.

About three years ago while working in a rolling-mill, a ball of red-hot molten iron was dropped into water and exploded, and one of the fragments struck him in the right forearm, inflicting a severe wound; the bones were exposed and the tendons laid bare. The wound healed slowly, and he was under treatment for eleven weeks. His arm was not quite healed for nearly fifteen weeks, although he was able to do some work with it. He went back to the mill and for about six months his arm gave him no trouble, when he began to notice gradual wasting and loss of power in it, which slowly extended to the shoulder, the other arm, and later to the neck, etc., as now observed.

He presents advanced atrophy of the muscles of the forearm and shoulders of both sides. The muscles of

the neck generally are atrophied. When the patient bows his head, after reaching a certain point the head suddenly falls forward, and in lifting the head the muscles of the back and neck are brought into strained and unnatural action. He can only keep his head erect by resting the occiput on the back of his neck. The atrophy has not yet spread much over the lower half of his body.

He has fibrillary tremors, especially in the muscles of the chest and neck.

Both knee-jerks are exaggerated, and he has slight ankle-clonus. He complains of considerable pain in the legs and arms. His pupils are normal.

Farado-contractility is retained, partial degeneration reaction.

CASE III. *Diffused sclerosis, chiefly amyotrophic lateral, with bulbar paralysis.*—J. S., sixty-six years old, has been in the Philadelphia Hospital for many years. His mental powers are generally enfeebled, but his memory for past events is fairly good.

He has considerable tremor: his head sometimes shakes, and sometimes his trunk and entire body. Both hands are very much atrophied, the thenar and hypothenar eminences, interossei, etc., wasted. He has an apparent double wrist-drop. His fingers are usually a little flexed. He can elevate his arms but they are weak; the muscles high up in the limbs are slowly getting worse. The left upper extremity is weaker and more wasted than the right. While his hands have the appearance of double wrist-drop they are not completely helpless; he can with a strong effort extend his hands and fingers. The thumbs are usually carried across the palms.

Both legs are in a spastic condition, having a tendency to remain contractured in extension. The feet assume a slightly varus position. There is spasm of the adductors of the thighs. The muscles of the legs respond to faradism, but it requires a strong current, which is probably due to the condition of the skin. His senses of touch and pain are retained. He has incontinence of urine. Both knee-jerks are exaggerated, and muscle-jerks marked.

The right pupil is larger than the left. The iridic response to light is diminished. He has no true facial paralysis, but poor control of the musles of expression; he cannot with facility draw his mouth to one side or the other, and he has little power in the oral muscle, as in whistling. The general bulk of the tongue is small. The contours of the face are more strongly marked on the left side than on the right. He complains of difficulty in swallowing. Testing with water and bread, the difficulty seems to be in the constrictor muscles of the pharynx. His method of speaking is peculiar. He speaks with great effort, the difficulty being in phonation. as well as articulation. At times his speech is explosive or stormy in character; sometimes it is hesitating, but it is not distinctively of this character. Smell and taste are preserved.

Farado-contractility in the muscles of the forearm is retained. When a strong current is used on the extensor muscles of the forearm, while these contract the flexors contract so much more strongly that the movements of the extensors are obscured, an observation which would seem to show that when one group of muscles are much atrophied and weakened, extra-polar diffusion of the current to antagonistic muscles might lead to the mistake or supposing that the muscles tested did not respond.

CASE IV. *Unilateral atrophy of the tongue in an old man, with senile dementia.*—J. C., aged eighty-six, a laborer, had an insane grandfather; has had acute rheumatism, and malarial fever, has been a moderate drinker, but denies venereal disease. For several months he has suffered from incontinence of urine and feces, and has had some trouble in micturition.

He has a peculiar defect of speech; when he talks his articulation is a little indistinct and tremulous. His tongue is distinctly atrophied on the left side. The imperfection of speech appears to be due to this lingual atrophy, and weakness of the oral muscles. He has some tremor of both hands and arms. He appears to be weak on the left side, but there is no well-defined paralysis. He is irascible and irritable, and it is hard to fix his attention. At times his mind seems to wander, and he is often querulous and worrying. The arcus senilis is highly marked, and his bloodvessels are extremely atheromatous.

CASE V. *An irregular form of sclerosis with hemi-atrophy of the tongue.*—J. W. J., thirty-six years old. About sixteen years before coming under observation had a chancre, and since then has had various attacks of sore throat. Ten years ago he first noticed slight numbness in the left foot beginning in the toes. This feeling extended slowly so that the entire left side of the body became weak in about two years. He retained power, however, on that side for nearly three years, when the left arm began to fail. He began to lose power in the right leg about three years after the first attack of numbness in the left foot. In about two years later he became almost helpless in the right leg. The right arm has not been affected. He began at a date he could not fix to have tremor of the tongue, which wasted on one side. His bladder has never been affected, except that he has sometimes suffered pain during micturition. For nearly two years he was so helpless that he could not leave the house. Under specific treatment he got well enough to go out, and for five or six years has kept about the same.

Examination shows no headache. He has abundant secretion of saliva, and has fair control over the facial muscles.

The right half of his tongue is practically normal. The left half presents a remarkable appearance; it is much smaller than the right, and is irregularly atrophied, so that its border presents an unevenly eroded, or corrugated look. It is in constant tremulous motion.

The left hand always feels cold to the touch, but has a flushed appearance. Sensation in the right leg and both arms is well preserved for touch, pain, and temperature. The left hand is numb and sensation is diminished. Sensation in the face is preserved. The left knee-jerk is exaggerated; the right well-marked; ankle clonus is decided on the left, slight on the right; muscle-jerk is decided on the left. He walks with a cane, dragging the right leg.

Both faradic and galvanic contractility are retained. At times he complains of dizziness. When he lies down in any position but upon the right side, he feels as if he would fall face forward.

CASE VI. *Simple muscular atrophy associated with old joint disease.*—W. C., aged thirty-two, white, is very

pale and emaciated. Atrophy of his legs is especially marked, in the right leg and thigh more than the left. Foot-drop is marked on the right side. Patellar reflex is retained in both legs, and about normal; ankle clonus is absent. The legs seem stiff and the patient cannot move either of them. He is totally unable to walk or stand. The paralysis of the right leg is more complete than the left. He does not appear to be able to move leg, foot, or toe. His right leg is extremely atrophied or emaciated from the hip down. The right hip-joint shows signs of old inflammation with adhesions, and other secondary changes, so that the thigh is absolutely immovably fixed to the pelvis. On handling the hip-joint no pain is experienced. The left leg is thin, but shows much less wasting than the right. The middle of the right thigh measures 11½ inches; of left thigh, 13⅛ inches; middle of right leg, 8½ inches; of left leg, 9¼ inches. The right leg from the anterior superior spinous process to the internal malleolus measures 28½ inches; the left leg, 32½ inches. Sensation appears to be perfect. Faradocontractility and galvano-contractility are normal.

CASE VII. *Idiopathic muscular atrophy.*—D. S., aged thirty-one, white, born in Pennsylvania, is one of twelve children, six of whom died of convulsions. One sister is hysterical, and all of the others are subject to fits. The patient has two older brothers, aged respectively forty and forty-two years, affected like himself. The disease came on them in childhood, as in his own case. He had spasms from infancy until he was twelve years old.

At eight years of age it was noticed that he could not go up stairs without putting his hands on his knees. He continued slowly to get worse, soon walking with a cane. He learned barbering at sixteen, and was able to work at it for ten years. At twenty-three he had to use crutches. Until 1882 the weakness was confined to the legs; it then began to involve the arms, which pained him when he raised them to shave.

He has no difficulty in speech or swallowing. His sight is good. The face shows very slight smoothing out, and weakness of the right side. The irides respond to light.

He exhibits universal, or almost universal, wasting, although in varying degree, of the muscles below the head. His upper extremities are very thin, particularly the upper arm and forearm. His hands are also wasted, but the thenar and hypothenar eminences and interossei muscles are not so much wasted comparatively, considering the stage of the affection, as the muscles of the forearms, hands, and trunk. The deltoid muscles are also not absolutely wasted. The left deltoid is less wasted than the right. Marked atrophy of the trunk muscles is well shown when he attempts any movements of the trunk, for which he is incapacitated except to a small degree. The latissimus dorsi and the pectorals are in an advanced stage of atrophy. The muscles of the lower extremities show wasting as above—the right muscles probably in the most advanced stages. The patient thinks his disease began in the thighs. In the lower extremities are well-marked vaso-motor changes. The feet and legs are purple or reddish in color, and colder than they should be, this mottling being most marked in the region of the knees and thighs.

The knee-jerk and muscle-jerk are abolished. Faradic and galvanic contractility are retained.

Sitting, this patient can, by an effort of the will, cause the muscles of the thigh to contract almost like fibrillary or involuntary contractions, and yet he cannot use the same muscles for their usual physiological purposes. He cannot, for example, kick out, or cross the legs, and yet he can produce by a willed effort waves of muscular movement in the quadriceps and other muscles.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 20, 1888.

THE PRESIDENT, A. JACOBI, M.D., IN THE CHAIR.

DR. THOMAS E. SATTERTHWAITE read a paper on

A NEW STUDY OF LOBAR PNEUMONIA; WITH STATISTICS DERIVED FROM A REVIEW OF FIFTY-SIX FATAL CASES.

(See page 1.)

DR. ANDREW H. SMITH said that the subject was one beset with difficulties, whether viewed from one point or another. There was one fact in the history of pneumonia which might have some bearing upon our ideas of its nature. He referred to the very peculiar temperature which was really characteristic of the disease. It reached very early an exceedingly high point, maintained it for a considerable length of time, and then abruptly fell. The fall, which took place about the sixth day, was not only to normal, but frequently to a subnormal degree; yet there was not a corresponding change in the physical signs to give any explanation. This would seem to indicate that there was something in the disease entirely different from an ordinary inflammation. The measure of inflammation, so far as concerned the physical signs, were the same. It was quite possible that the production of poisons in the blood had something to do with this change. It would lead one to suspect that the disease was due to a germ of some kind.

The disease differed from any other in another respect, which might have some bearing on the treatment. He referred to the peculiarity in the disturbance of the circulation. This disturbance was mostly in the lungs, and as a result of the obstruction to the flow of blood through the lungs, there was accumulation of blood on the venous side and paucity on the arterial side of the circulatory system. The labor thrown on the two sides of the heart was thus made very unequal, the right heart being burdened while the left had less than what it was accustomed to do. The heart stimulants would generally affect the right side no more than the left, and some were largely useful in other affections by their influence on the vasomotor system, but it had been shown that there were no vasomotor nerves connected with the pulmonary vessels.

It seemed to Dr. Smith somewhat difficult to frame a rational basis of treatment in these cases. The fact that there had been advocates of a great many different forms of treatment, and the efficiency of the same methods had varied at different times in the same hands, would seem to show that no very clear indications, which were not general, existed. Certainly, when there existed what had been called collateral fluxion, the temptation was strong to withdraw some blood, and it had been found that venesection was followed promptly by a certain amount of relief. Yet the relief could be only tempo-

rary, while if the procedure were repeated the patient would necessarily grow weaker.

The tendency to death was not due to congestion of the lung, but to heart failure, particularly of the right side. Then there was the high temperature, and also the poisonous effect upon the brain and nervous system, which constituted indications for treatment. He was fully in accord with the author that antipyretics which had a depressant effect should be avoided. While he thought the existence of a high temperature in itself would be injurious, yet he disapproved of reducing it by a means which might have a worse effect than the temperature itself would have exerted. It were better to do too little than to do too much. To promote the elimination of excrementitious material, the bowels and kidneys might be made active. The skin was likely to be active without the use of diaphoretics. He was not at all surprised that the expectant method had so many advocates, nor at its comparatively good results.

There was one remedy which remained to be mentioned as being of decided advantage in a very limited number of cases. It was the inhalation of oxygen gas. Ordinarily the blood would not take up much more oxygen than it obtained from ordinary atmosphere, but there were times in pneumonic cases when that little would bridge over an imminent danger, especially when there was a large amount of fluid in the other lung. It certainly reduced the labor of respiration to some extent. The heart's action should be supported in every way. The question of how much alcoholic spirits should be administered was difficult to determine, but he believed they were too freely used by some. When the blood was loaded with alcohol it became a direct irritant to the heart itself.

DR. BEVERLEY ROBINSON felt less well satisfied on a few points in connection with pneumonia than did Dr. Satterthwaite. For instance, he had never seen the characteristic sputum in any other disease, and he thought that in the rusty sputum of the stage of hepatization we had a sure diagnostic sign. With regard to causation, without attempting to pass as far as the precise cause, he thought great bodily fatigue and foul air were efficient factors. The disease also often developed suddenly in persons returning from the theatre after having overworked mentally during the day. Regarding treatment, those who had had experience a few years ago might find the same remedies of much less value to-day. The types of the disease changed, and required a change of treatment. He disapproved of the use of antipyretics which weakened the heart and general system in this disease, or any other where in this way they might exert an injurious influence. He could not help believe that high temperature, after all, was only a symptom, and a single symptom of a grave disorder, and it had always seemed unreasonable to him to reduce the temperature by a remedy which would depress an already weakened system. Digitalis in infusion could be used with far greater safety than newer antipyretics, or aconite, or veratrum viride.

He was surprised that Dr. Smith had come to regard oxygen gas of use in only so limited a field. In the treatment of pneumonia he employed oxygen gas, gave the patient black coffee, pretty free use of brandy in milk or brandy alone, small doses of calomel, the judicious use from time to time of some cardiac tonic, as digitalis, or strophanthus; avoid drafts. He deplored the use of the oiled jacket which made drafts all the more dangerous.

DR. SIMON BARUCH said that his interest in the subject centred principally in the treatment. He had dropped heroic measures as they were taught when he was a student, and had gradually adopted the expectant plan of treatment. He had read a paper, many years ago, before the South Carolina Medical Society, in which he drew some lessons regarding the treatment of pneumonia from the homœopaths. He meant the original homœopaths who treated disease by infinitesimal doses, or, as we knew, who did not treat them at all medicinally. Their careful attention to diet and hygienic management accounted for their success. There was no remedy which had any influence in checking the disease, but there were remedies which modified its course considerably. Regarding the high temperature, it was not an indication of the dangerous character of the disease. While he might not have the antipathy for modern antipyretics used in other diseases which Dr. Robinson had shown, yet he considered their depressant action injurious in pneumonia; nor did he use quinine.

The proper way to stimulate the right side of the heart was to relieve it of the load bearing upon it by influencing portal circulation. He gave eight to ten grains of calomel, and, if necessary, followed it by a saline cathartic. It might be necessary to use digitalis. He did not believe the types of the disease changed with the season or year, but that they did change according to whether one at one time had a hospital practice and at another private practice, etc. The original condition of the patient altered the type. He did not share Dr. Robinson's objections to the cotton jacket and oiled silk. He employed non-absorbent cotton, and with the oiled jacket outside to prevent evaporation and keep the surface warm, the perspiration bathed the body, and acted as a good substitute for a poultice.

DR. ROBINSON disapproved of a poultice, and of the use of cotton unless changed often enough to leave the body constantly dry.

DR. SATTERTHWAITE reviewed some parts of his paper regarding the characteristic sputa of pneumonia, and emphasized the fact, when speaking against depressing antipyretics, that high temperature in itself was not an indication of the dangerous character of the disease. It pleased him to know that the members were so favorable to the expectant treatment.

SECTION ON THEORY AND PRACTICE OF MEDICINE.

Stated Meeting, December 18, 1888.

R. C. M. PAGE, M.D., CHAIRMAN.

DR. E. D. FISHER read a paper on

CEREBRAL SYPHILIS.

Rumpf had divided, he said, the disease in the brain into three classes: (1) disease involving the skull; (2) new growths involving the brain or its membranes; (3) specific disease of the cerebral vessels. It was to the latter that the paper was more particularly designed to call attention.

As to the pathology, many of the earlier appearances in cerebral syphilis, in the second stage, were probably due to simple hypertrophy of the tissues affected. It was cer-

tainly time, however, that in the tertiary stage, whether occurring early or late, the tissue-changes, whether in the form of a gumma or merely affecting the arteries, had a specific character. Hence he believed with Rumpf that the virus itself was still active, and that these changes are not due to the effect of a poison which had expended itself but left its impress on the system. Also to sustain this clinically, he felt sure that there were found many cases transmitting syphilis late in the course of the disease which then passed through the same class of symptoms as when the disease was transmitted early in its course.

Meyer considered as almost pathognomonic of syphilis a matting together of the dura and pia with softening of the cortex, since in pachymeningitis from other causes this rarely occurred. Characteristic of the pathological changes of syphilis, as distinguished from atheroma, according to Heubner, was the fact that the larger arteries were alone affected in atheroma and that continuous tracts were involved; while occlusion occurred by thrombosis, and never by a narrowing of the lumen of the artery. The process consisted of a simple hypertrophy, resulting in calcification; there being no new growth. In syphilis, both large and small arteries were affected; the tendency being, however, toward the small and middle sized vessels. We might, indeed, have thrombosis; but the marked lession was narrowing and final occlusion of the vessels from the extension of the new growth internally, though rarely in the endothelial lining. The process was rapid, and differed from atheroma in that it was not continuous, but occurred in plaques. Arterial disease might occur entirely independent of gummata, and according to Dunn the vessels of the pia were very frequently involved; leading to softening and atrophy of the cortex. The tendency to the formation of new vessels with their walls so characteristic of all granular tissue was here present; so that we had at first a tissue richly supplied with vessels.

Rumpf placed the origin of the arteritis in the middle coat of the arteries, and insisted on its character of granular tissue, similar to that found in all syphilitic growths. He admitted the difficulty of differentiation microscopically from atheromatous arterial changes, but believed a special bacillus could here be found which was the source for the primary chancre and the late growth. A drawing of his representing syphilitic arteritis, in which the narrowing of the lumen was clearly delineated, corresponded very closely to a microscopical section of the basilar artery in a case of Dr. Fisher's, which he related at the close of the paper.

In treating of the symptoms of cerebral syphilis, he referred first to the psychical changes often present. While occasionally sudden in their onset, they were more often gradual, extending over months or even years. We noticed a general loss of mental power, the ethical nature seemed to suffer, the memory became weakened, and there was often a feeling of loss of power of performance. Insomnia, independent of cephalalgia, was one of the early symptoms, and always a serious one. It sometimes had associated with it somnolence or even stupor. Headache was, perhaps, one of the most frequent of all the early symptoms. It was, however, always indicative, if localized, of either cranial bone or dura affection. It was very often absent when the lesion was situated in the arteries. The cranial nerves, and especially the third, fifth, and sixth pairs, were early affected, either partially or completely. Hutchinson said that he had never seen the seventh alone affected, although such cases have been reported. He was equally strenuous on the diagnostic value of affections of the fifth as indicating syphilis.

In arterial disease unassociated with meningitis or tumor we often found the single paralysis of the cranial nerves. Epileptic seizures are often present, and as the inflammation was usually diffused rather than circumscribed, they were more often general than localized. As regards the eyes, Dr. Fisher called attention to choroiditis and retinitis as indicative of an already existing affection of the cerebral vessels. A cloudiness of the disk, appearances of atrophied spots in the fundus, traces of a past retinitis or choroiditis, and gum··atous enlargements especially involving the terminal arteries, naturally aided in a positive diagnosis. As a diagnostic point, any interference with vision in a part of the field of vision or a general loss of acuity of vision in the young should lead to the suspicion of syphilitic disease of the cerebral arteries.

Paralysis of parts widely separated was strongly diagnostic of syphilis. Also hemiplegias coming on without loss of consciousness in which the paralysis was preceded by numbness and tingling, and gradually extended from the arm to the leg (especially if there had been previous irritability for weeks or months, loss of memory, and perhaps headache, confusion of ideas, and somnolence or insomnia), occurring in persons under forty years of age, were probably specific.

DR. WILLIAM H. THOMSON considered the paper a valuable contribution to a subject of great interest and very great obscurity. The differential diagnosis of the various forms of cerebral syphilis, he said, is often a very difficult matter. In the first place, the question arose, Have we syphilis at all to deal with? The nervous symptoms alone are not sufficient to determine this point, and it is necessary, therefore, to make an examination over the body of the patient. There is one mark which he regards as of considerable importance in this connection, namely, tenderness on pressure at the junction of the sternum with the ensiform cartilage. It is almost uniformly present in syphilitic patients, and its diagnostic value is, therefore, very great. It being reasonably sure that the patient is suffering from cerebral syphilis, it must then be determined whether he has meningeal trouble, syphilitic tumor, or vascular disease. If the latter, we should endeavor to find out what particular form of vascular syphilis is present.

Syphilis is to be suspected in any case which is characterized by variableness and inconsistency, in which it differs from other forms of disease. In meningitis headache is the most marked characteristic. In the second place, we have the gradual development of the symptoms. Thirdly, we should examine the condition of the vessels generally, and see whether they are soft and natural. In syphilitic tumor we have to rely very much upon the condition of the eye; and choroiditis is much more commonly present than retinitis. Sluggishness of the pupil, which has been referred to in this paper, he has often noticed, though he had not been aware of its diagnostic significance; and he said he was very glad to have his attention called to this point. Sometimes with meningitis or tumor there are symptoms of insanity and epileptiform seizures.

About a year ago he had been called in consultation in the case of a lady well advanced in years, who was in a comatose condition. There was no evidence of kidney disease, indicating that the trouble was uræmic, and pressure upon the sternum elicited groans from the patient, notwithstanding the coma. Suspecting, therefore, that the trouble was due to cerebral syphilis, he advised specific treatment, and the patient afterward recovered. Yesterday he said he was called to see the husband of this lady, a man seventy years of age. About two weeks ago he began to be affected with confusion of speech, great irritability, and motor symptoms. These motor symptoms were not of a paralytic kind, but referable to incoördination. Depression alternated with excitement, and he had become quite emotional. He also had insomnia at night, and suffered from somnolence in the daytime. Dr. Thomson said he had very little doubt that this patient was suffering from syphilitic endarteritis.

DR. LANDON CARTER GRAY said that if we started from the prime anatomical lesion of syphilis, the round cell, we could get a better idea of syphilitic developments. It was a characteristic of the syphilitic round cell that it had an enormous vitality. It would live for a long time in the system, and would undergo retrograde metamorphosis without the formation of pus. As long as the cell caused no structural disease by its presence, the prognosis was favorable. We did not yet know all the forms of cerebral syphilis, but some of them were sufficiently familiar. There might be, in the first place, a chronic interstitial encephalitis, scarcely distinguishable from that of general paresis, except by its slower progress. Secondly, there was pseudo-encephalitis, in which there was great danger from sudden death. In other cases the disease attacked the arteries. Precisely what the lesion was he did not know, but there did not seem to him to be anything pathognomonic about the affection. Finally, there was an implication of the meninges: (1) of the dura, causing headache; (2) of the pia, involving the cortex.

In the majority of instances it was necessary to make the diagnosis from the conditions found in the brain, rather than from evidences of syphilis derived from other sources. Dr. Gray then proceeded to quote, from a paper which he read last year before the Philadelphia Neurological Society, and which had been published in THE MEDICAL NEWS, certain groups of symptoms which he had formulated from his own experience as indicative of specific infection.

DR. CHARLES L. DANA said that the symptomatology of cerebral syphilis was very difficult; but from the contributions that had of late years been made to the subject, we could now form a pretty correct picture of it. The pathology, however, still remained in a very unsatisfactory state. He could not believe that the lesions which are observed are due to Dr. Gray's round cell, since this anatomical factor was common to other conditions and affections. In the cases which he had seen, there were four different forms of lesions, which were as follows:

1. Local hyperæmia.
2. Local meningitis and gummatous changes.
3. Cranial root neuritis, or neuritis itself.
4. Degenerative changes resembling those from other causes.

DR. FISHER, in the course of his remarks in closing the discussion, said that he had found the tenderness of the sternum on pressure, as pointed out by Dr. Thomson, a valuable diagnostic sign of syphilis. As to the round cell referred to by Dr. Gray, he doubted whether it was of syphilitic origin, and thought that if there was anything specific about the pathology of the disease it was a bacillus.

OBITUARY.

EDWIN M. SNOW, M.D.,

died suddenly, of heart disease, at his home in Providence, R. I., on December 22d, in the sixty-ninth year of his age.

He was born in Pomfret, Vermont, and was a lineal descendant of William Snow, who was born in England, in 1624, emigrated to Plymouth, Mass., and afterward was among the early settlers of Duxbury and West Bridgewater, Mass. After preparatory studies at Kimball Union Academy and the New Hampton Institute, both in New Hampshire, Dr. Snow entered Brown University, where he graduated in 1845. Subsequently he studied medicine with Dr. W. D. Buck, at Manchester, N. H., and graduated at the College of Physicians and Surgeons, New York, in 1849. He began practice at Holyoke, Mass., the same year, and treated many cases of Asiatic cholera, which disease was then prevalent in that city. The next year he went to Providence to practise, and in 1854, in the capacity of dispensary physician, he was again called on to treat numerous cases of cholera, and became much interested in tracing the connection of the disease with local conditions of filth. In 1855 he was elected a member of the Common Council of Providence, and was also appointed City Registrar of Births, Marriages, and Deaths, when that office was first created; and also Health Physician and Health Officer at Quarantine. In 1856 he was elected to the newly established office of Superintendent of Health, and from that time until 1884 was annually reëlected to that position, and also as City Registrar, which latter office he continued to hold to the time of his decease.

He was appointed to superintend the census of Providence in 1855; was Superintendent of the State Census of Rhode Island in 1865 and in 1875, and was Supervisor for the District of Rhode Island in the National Census of 1880. In 1863 he was appointed Inspector of Hospitals by the United States Sanitary Commission, and spent several weeks in examining the military hospitals in Philadelphia and vicinity, and in visiting the Army of the Potomac, opposite Fredericksburg. He also took a prominent part in the meetings of the Quarantine and Sanitary Conventions, which first met in Philadelphia in 1857, and in the following years in New York, Baltimore, and Boston. He was a member of the National Prison Congress, which met in Cincinnati in 1870, and a delegate to the International Prison Congress, in London, in 1872. For several years he was an Inspector of the Rhode Island State Prison and Secretary of the State Board of Charities and Corrections.

Dr. Snow had been a Fellow of the Rhode Island Medical Society since 1850, and was President of the same for the year 1876–77. He was also a member of the Providence Medical Association, the American Medical Association, and the American Academy of Medi-

cine. He was a member of the consulting staff of the Rhode Island Hospital from the time of its establishment. In 1868 he was a State delegate to a convention in Springfield, Ill., in relation to the Texas cattle disease, and was Chairman of the Rhode Island Cattle Commission in 1871–72. From 1874 to 1878 he was Chairman of the State Commission which built the new State Prison in Cranston. R. I. He was sent as a delegate from the United States Government to the International Statistical Congress, which met in St. Petersburg in 1872. He was one of the original founders of the American Public Health Association, and was for two years Vice-President, and for one year President of the same. For twenty-five years he was a Trustee of the Providence Reform School, and in 1876 was elected a Trustee of Brown University. He was the author of numerous pamphlets and reports, among which are those on "Asiatic Cholera," "Smallpox," and various municipal and sanitary subjects; twenty-four Annual Reports as City Registrar, and eight Annual State Reports in Registration.

In politics Dr. Snow was a Republican, in religion a Baptist. He was widely known for his extensive and pre-eminent knowledge of the subjects of statistics, registration, and sanitation. He was a kind and genial man—held in the highest esteem by his fellow-citizens, while the intelligence, honesty, and carefulness with which he fulfilled the duties of his many positions of public trust justly enrolled him among the most honored officials of the city and State.

NEWS ITEMS.

The Abuse of Charity.—According to the *Physician and Surgeon*, December, 1888, out of sixty cases of senile cataract operated upon in one year in the Ann Arbor clinic, ninety per cent. were eminently able to have paid the fee of a specialist for a private operation. In one week among the cataract patients who were operated upon, an investigation showed that there were four patients the poorest of whom was worth over fifteen thousand dollars, one estimated his wealth at forty thousand, another had given the bulk of his property to his children, but retained two hundred acres of cultivated land, well improved and completely stocked, while the fourth was worth over three hundred thousand dollars. The fourth, or richest of these, was not a resident of the State of Michigan.

Nickel Vessels.—Although the opinion of physicians and physiologists often varies as concerns the toxic effects of copper salts, it is generally considered that the use of copper vessels in culinary operations is detrimental to health, and nickel has been much praised as a substitute for copper. DRS. LABORDE and RICHE, after many physiological experiments, have come to the conclusion that nickel salts must be absorbed in considerable quantity before becoming obnoxious, and that the use of nickel vessels in culinary or pharmaceutical operations is without the slightest danger to health.—*Popular Science News.*

NOTES AND QUERIES.

THE ORIGIN OF THE LATE YELLOW FEVER EPIDEMIC.

To the Editor of THE MEDICAL NEWS,

SIR: As the widow of the late Charles M. Turk, and in defence of his honor, and in justice to our child, I desire to correct an error and misrepresentation of Surgeon-General Hamilton, occurring in an address reported by you in your issue of the tenth of November last, with relation to the yellow fever and the part my husband (he was the only person of the name here) is alleged to have taken in introducing the disease in Tampa.

The language made use of is, "an Italian by the name of Turk." With reference to this I have to say, that Mr. Turk was an American, a native of the State of Ohio. I am a native of the State of Florida, and had been married to him, at the time of his death, which occurred on the 22d September, 1887, about eighteen months and during all that time lived with him at Tampa. The further, language used is, for this purpose (smuggling) "the man Turk and his assistant, Pete, made frequent surreptitious visits to Key West." This statement is utterly false. I deny, and it can be readily otherwise proved, that Turk never, during the time of his marriage with me, was absent from home but on three occasions: once at Jacksonville, once at Orlando, Fla., when I accompanied him, and on a third occasion he was out on a hunting expedition a few days before his death, when he slept out, camping in the open air but two nights. He (Turk) had nothing to do with a man named Pete, but he was accompanied on the hunting expedition by an Italian named Pepe, and I herewith enclose an affidavit of a friend and intimate companion of Pepe, to show that he never was in Key West.

I do not know where Surgeon-General Hamilton got his information, but if the remainder of his address is based on no better information than that relating to my husband, his statement is entitled to no respect whatever.

He further goes on to state that the whole family of Turk was the first to be taken sick. This, again, is utterly false. Turk and myself were living, at the time of his death, with my mother, brother, and sisters. We had all just been burned out at Tampa, and none of us took the fever from my husband. The absurdity of the affair was that the house and premises of my brother-in-law, C. W. Wells, near where we lived, were quarantined, while that in which we lived was not so treated, Mr. Wells and family also escaped at that time, though some two months afterward they were attacked and were slightly sick.

I regret that this statement is so tardy, and trust that you will do me the justice of publishing it.

MARGARET TURK.

"State of Florida,
"County of Hillsborough.

"On this 26th day of December, A.D., 1888, personally appeared before me A. Bartholomew Philogamo, to me well known, who, being duly sworn, deposes and says:

"I am well acquainted with Vincenzo Pepe, and lived with him and occupied the same apartments, and was in daily communication with him for some months prior and up to the death of Charles M. Turk, which occurred on or about the 22d day of September, 1887, and I know that he, the said Pepe (I do not know any Italian in Tampa going by the name of Pete), during that time, never went to Key West, or was absent from Tampa for more than one night at a time, but on one occasion, and then I understood he accompanied Charles M. Turk on a hunting expedition. I also know that said Pepe had not, during the time he was in Tampa, and he left there on 3d October, 1887, the yellow fever.

"A. B. PHILOGAMO.

"Sworn before me, at the city of Tampa, Florida, on the day above written.

[SEAL.] "FRED. J. LAPENOTIERE,
"*Notary Public*,
"State of Florida."

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